

SOAP

and Chemical Specialties

On this issue...

Quats given green light
for milk sanitation use

...

Pressurized shave cream
patent upheld on appeal

...

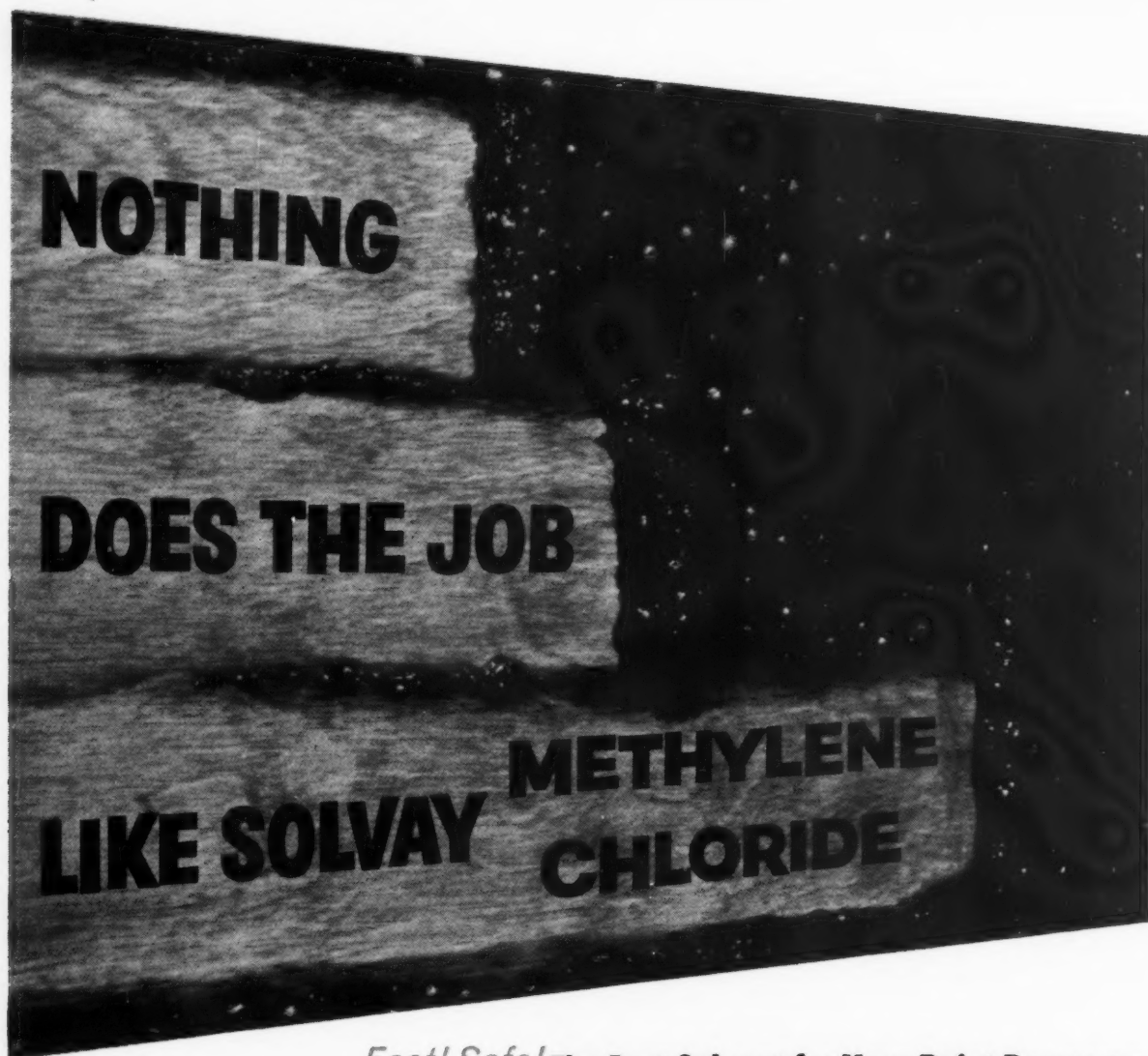
Repellents plus sprays
tick livestock insects

...

Soap use increases for
synthetic rubber needs

K. E. Fulton, newly elected president of Beach Soap Co., Lawrence, Mass., succeeds his father, Gordon R. Fulton, who becomes chairman of the board. The new Beach president was executive vice-president of the firm prior to his recent elevation to the presidency.



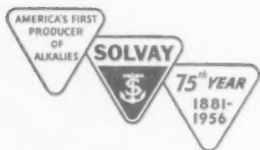


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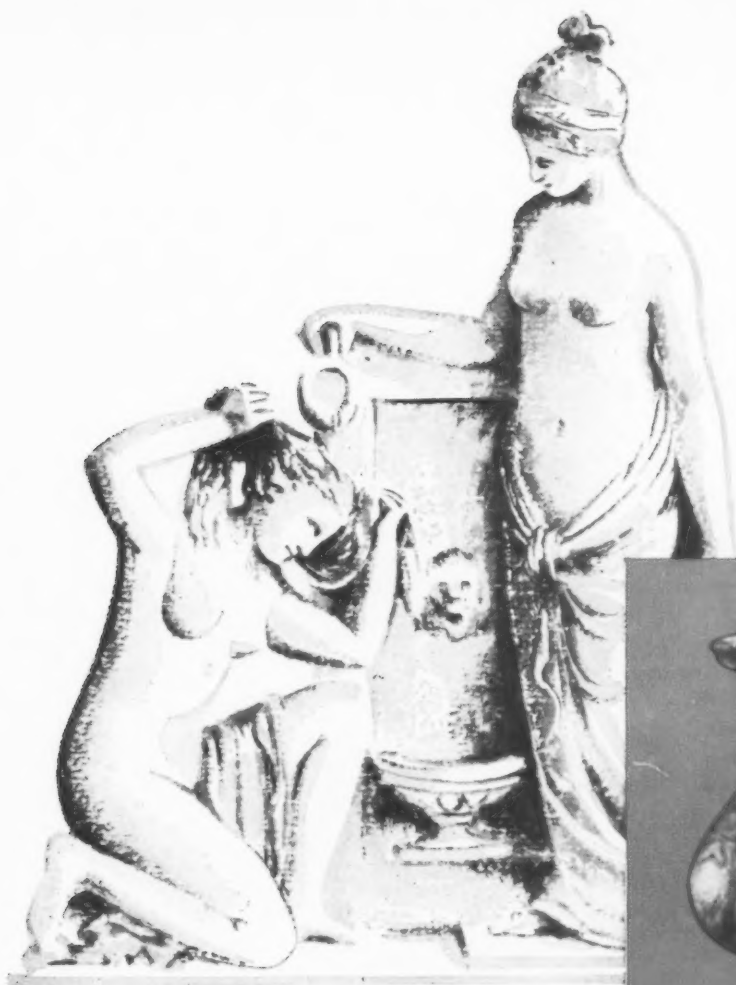


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DM-4



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APRIL, 1956



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SUPER CAND-DOX®
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CAND-DOX® #BB

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Durability

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Water
Resistance

Solid
Content

Carnauba
Wax

Initial appearance is important, but for a waxed surface to remain beautiful, it must be durable. Durability depends not only on resistance to abrasion of traffic, but even more so on resistance to discoloring marks. Durability should be measured by how long the waxed surface maintains a nice appearance before complete removal and re-waxing is required.

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SOAP

and Chemical Specialties

CONTENTS

In Brief—As the Editor Sees It	35
As the Reader Sees It	39
Soap in Synthetic Rubber	41
By Donald Druessedow	
Measuring Crude Glycerine Quality	45
By C. S. Miner, Jr.	
Big Little Soap Company	43
By Phil Lance	
Aerosol Shave Cream Patent Upheld	51
Perfumers Study Marketing	54
Committee D-12 Meets	79
Aerosol Surface Coatings	143
By J. W. Bampton	
Insects as Livestock Pests	146
By A. W. Lindquist	
Milk Code Revised	149
Do-It-Yourself Market Research (Part II)	153
By W. S. Jessop	
Production Section	79
Products and Processes	87
New Patents	89
Production Clinic	91
Soap Plant Observer	97
Packaging Section	101
New Products Pictures	114
New Trade Marks	119
Pressure Packaging	121
Classified Advertising	191
Coming Meetings	198
Advertisers' Index	199
Tale Ends	200

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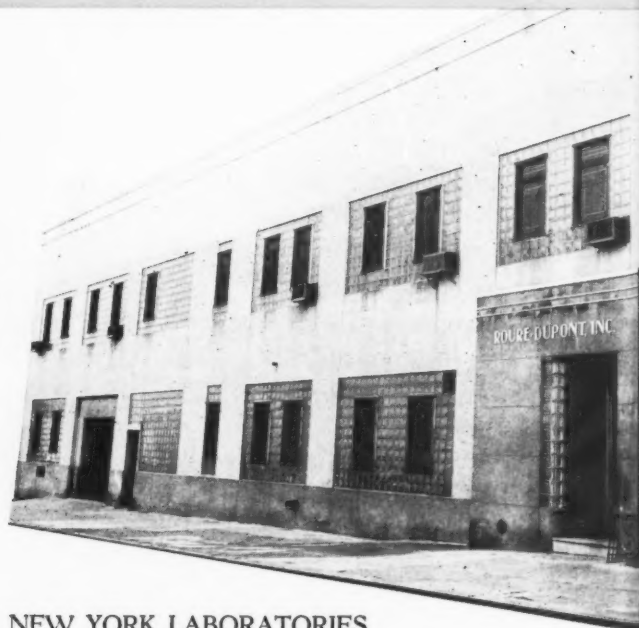
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APRIL, 1956



In their brief but exciting history, chelating agents have encountered reactions ranging from scoffs and disbelief to overzealous exaggeration about their application. But the air is clearing. Already they are serving as important tools in many industrial processes. This is the beginning of a series on chelating agents designed to further clarify what they are, what they will do—and won't do.

The Chemistry of Chelation: Part I

Chelation defined • Example of the reaction • Variety of applications • Future of chelating agents

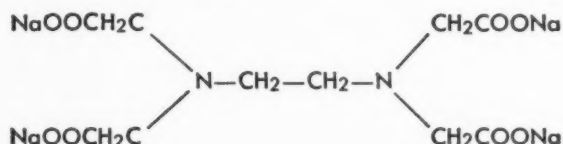
Polymerization of synthetic rubber controlled . . . soap kept white and sparkling on the dealer's shelf . . . textiles bleached and dyed with permanent uniform colors . . . pharmaceuticals stabilized. Unrelated reactions? Certainly. However, all are accomplished by a group of closely related chemicals called chelating agents. How do they work? Well, it's not magic, but chemistry—in a way, fairly basic chemistry. But let's begin at the beginning.

What Is Chelation?

Let's look at the word chelation. It is derived from the Greek word *Kelos* which means "claw." Simply stated, a chelate is a claw which holds a metallic ion inactive in solution. Chemically stated, chelation is a chemical reaction in which polyvalent metallic ions are reacted with organic reagents (chelating agents) to chemically inactivate these polyvalent metallic ions in the form of an extremely stable, water-soluble chelate.

Typical Reaction

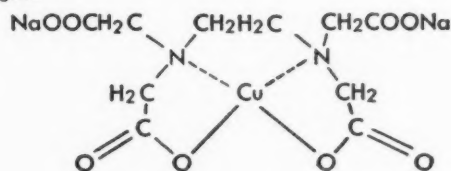
If we examine a typical reaction, the chemical structure of Versene®, one of the Dow chelating agents, clear. Let us take, for example, the



Versene

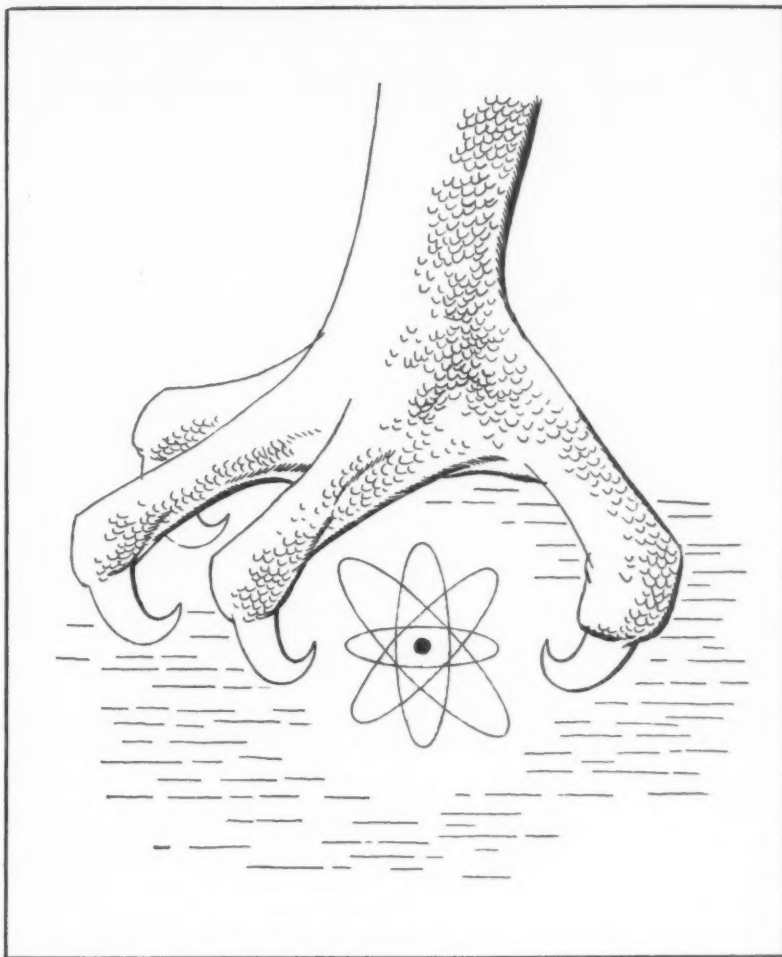
Now, if we place the Versene in a solution of copper (Cu^{++}), the following reaction which contains free polyvalent ions is the result:

plus Cu^{++} gives



Versene Copper Chelate

The resultant compound is Versene become a member of an inner ring copper chelate. The copper ion has structure in the molecule. The result?



It is inactivated. It cannot react with soap to cause darkening and stain during storage.

It can't cause breakdown of pharmaceuticals. It can't cause any trouble anywhere because it is locked in the Versene claw. It will stay locked in unless it is desired to reverse the process. This reverse action is used in polymerization of synthetic rubber—ions of iron being released at a predetermined rate by the chelate.

Variety of Applications

The most important thing, however, is that this "claw" property of chelating agents such as Versene makes it possible to solve a multitude of processing problems in industry. They've been used in tanning leather and tenderizing peas.

They can descale boilers, soften water and cure acute lead poisoning. The number of current industrial and medical applications is large, but the potential in unexplored areas is enormous.

And the Future?

The future of these products will hinge on the imagination and insight of chemists and engineers, of production men and purchasing agents, in nearly every industry. Wherever metal contamination poses a problem or wherever controlled introduction of metal ions is desirable, these chemicals warrant investigation.

Versene and other Dow chelating agents won't solve them all. Chelation is not a panacea. It will work chemically in some areas—it will fail in others. However, it is Dow's intention to assist in every way in the uncovering of processes in which chelating agents can be profitably used. Inquiries on your company letterhead will be handled with dispatch. We will be pleased to provide information and technical assistance. Write to Technical Service and Development, Dept. SC 900H, THE DOW CHEMICAL COMPANY, Midland, Michigan.

The next three topics in this series

- | | |
|----------------------|--|
| PART II
May | The Versene and Versenol® series of Dow chelating agents (what they are, strength and stability features—Versenol lower cost, less strength). Also—how chelating agents are specified (product performance versus chemical composition). |
| PART III
July | Specific chelating agents for specific applications. Formulations of various kinds (dilute or concentrated agent depending on product—powdered form for solid cleaning compounds—Versene vs. Versenol for iron removal vs. softening water). |
| PART IV
September | Further discussion of the use of chelating agents in the formulation of cleaning compounds (production economies possible—improvement of product: in appearance, in performance). |

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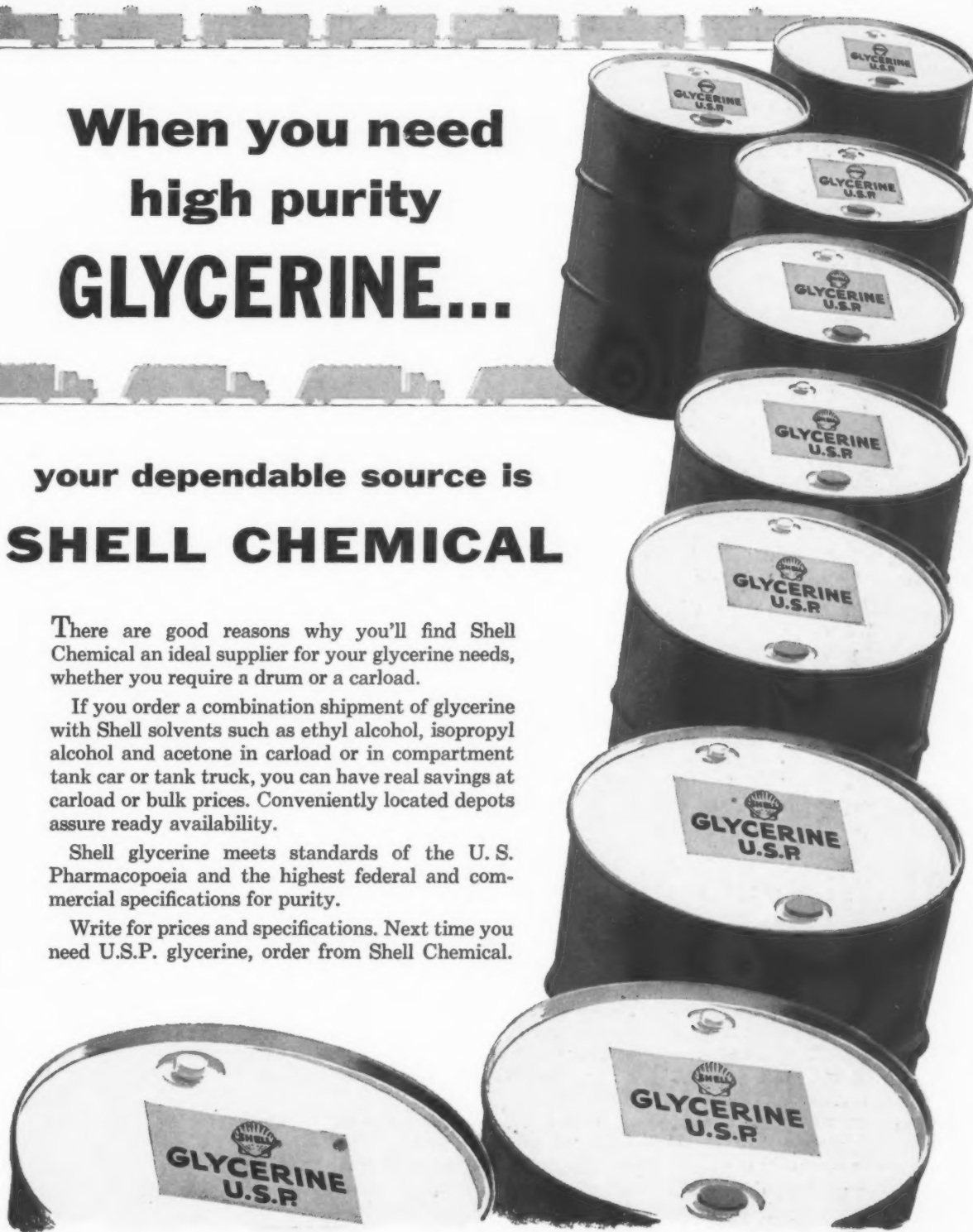
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C. E. Kaufman (left), Product Development Manager, Calgon, Inc., discusses the properties of the Pluronics with Ralph N. Thompson, Research Manager.

"Pluronics offer a combination of properties not available in any other single surfactant"

—Ralph N. Thompson, Research Manager, Calgon, Inc.

"We manufacture products for treating water from source to disposal," relates Calgon's Research Manager Ralph N. Thompson.

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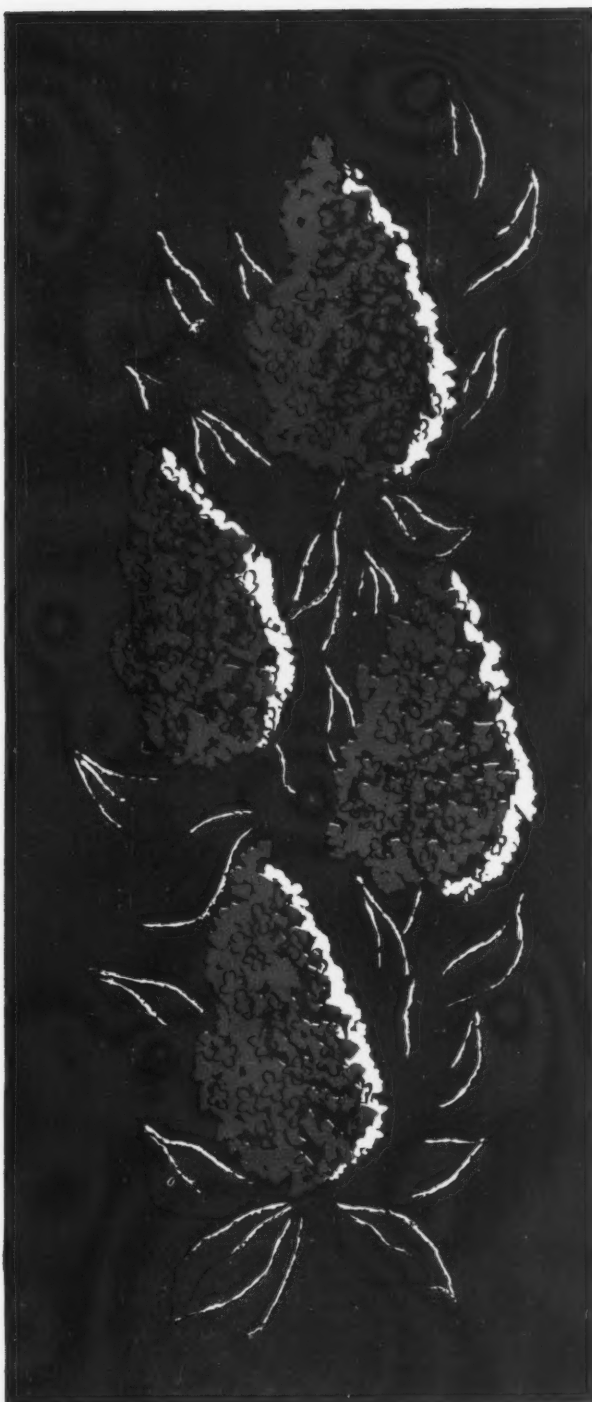
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SOAP and CHEMICAL SPECIALTIES

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Other Oronite Detergent Products

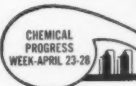
Detergent Slurry
Detergent D-40
Detergent D-60
Dispersant NI-W
Dispersant NI-O
Dispersant NI-E
Wetting Agent "S"

ORONITE CHEMICAL COMPANY

EXECUTIVE OFFICES: 200 Bush Street, San Francisco 20, California

SALES OFFICES

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30 Rockefeller Plaza, New York 20, N. Y.	20 North Wacker Drive, Chicago 6, Illinois
Carew Tower, Cincinnati 2, Ohio	Mercantile Securities Bldg., Dallas 1, Texas
36 Avenue William-Favre, Geneva, Switzerland	



After Closing..

Solvay Names Reynolds

Appointment of Robert L. Reynolds as manager of the newly established organic chemicals section



Robert L. Reynolds

is one of five new assignments announced early this month by the sales department of Solvay Process Division, Allied Chemical & Dye Corp., New York. Hugh W. Causey, manager of Solvay's Charlotte, N. C., sales branch since 1951, now becomes assistant director of sales and Robert P. Baynard succeeds Mr. Causey as branch manager. George R. Barclay is the new assistant to the manager of the special alkalis section and Ronald Lovatt now holds the position of supervisor of the calcium chloride section.

Mr. Reynolds went with Solvay's technical service group in 1940. Two years later he joined the War Production Board in Washington, D. C., and later entered the Navy. On his return to Solvay after the war, he became field sales representative at the firm's Detroit and Philadelphia branch offices. For the past four years he has served as technical assistant to the manager of special alkalis.

With Solvay since 1937, Mr. Causey served in the Navy during World War II, became assistant

manager of the Charlotte branch in 1948 and manager in 1951. Mr. Baynard has been a salesman at the Charlotte branch since 1948.

Mr. Barclay joined Solvay's technical service in Syracuse in 1950, moved to Detroit as a salesman one year later. Having joined Solvay's New York office in 1937, Mr. Lovatt has been a salesman in the firm's New York branch since 1946.

Bon Ami Sales Down

Bon Ami Co., New York, reported a decline in net sales in 1955 to \$2,833,372 from the 1954 figure of \$3,038,480. Net income before taxes in 1955 was \$290,463, compared with \$381,135 in 1954. Earnings per class A share were \$1.50 against \$2.47 in the preceding year.

Forster Hercules Chairman

Albert E. Forster was elected chairman of the board of Hercules Powder Co., Wilmington, Del., it was announced late in March. He succeeds Anson B. Nixon who retired as chairman but will remain as a member of the board of directors. The action was taken at the annual board meeting at which Mr. Forster was reelected president of the company in addition to his new respon-

Albert E. Forster



sibilities. All other officers were re-elected.

Mr. Nixon joined Hercules in 1915 as a chemist, became a director in 1932 and was elected a vice president and member of the executive committee in 1940.

Reily Appoints Two

Reily Chemical Co., New Orleans, has appointed Vernon McDonald and Mary McCreary to its



Vernon McDonald

technical staff, it was announced recently by Kenneth B. Thompson, Jr. Mr. McDonald will assist plant manager John Clark as assistant plant manager in charge of production while Miss McCreary will serve in the capacity of laboratory assistant. A graduate of Louisiana State University at Baton Rouge, Mr. McDonald formerly served for 17 years as plant manager of the American Turpentine and Tar Works, New Orleans.

Pennsalt Advances Ogden

Appointment of Robert P. Ogden as plant manager at the Riverview works of Sharples Chemical Division was announced late last month by Pennsylvania Salt Manufacturing Co., Philadelphia. Having joined the firm in 1941, Mr. Ogden became assistant to Sharples' vice president of manufacturing in 1943. Successive advancements led to his appointment as production manager of n-hexanol are intermediates for to his present assignment.

CSMA Midyear Meeting Program

PROGRAM outlines for the 42nd mid-year meeting of the Chemical Specialties Manufacturers Association, to be held at the Drake Hotel, Chicago, May 20-22, were announced early this month.

The first day will be taken up entirely by meetings of the board of governors, and by meetings of various committees. The six divisions of C.S.M.A. will hold simultaneous sessions in the morning and afternoon of Monday, May 21 and in the afternoon of Tuesday, May 22. A general session on Tuesday morning will feature the president's address and reports by the secretary and by the treasurer of the association.

At luncheon on Monday an award will be presented to *Soap and Chemical Specialties* upon completion of thirty years' service as official publication of CSMA. At the luncheon session a nominating committee will also be appointed. The group elects its officers at the annual meeting in December. The names of guest speakers at the two group luncheons on Monday and Tuesday have not yet been announced. Member companies will hold open house parties on Monday evening. A cocktail party and informal banquet will conclude the convention on Tuesday evening.

Four products surveys conducted by C.S.M.A. will be presented. They include aerosols, household and industrial insecticide products, brake fluid and antifreeze, and waxes and floor finishes.

Each division will hear an address by the chairman, and a report of its nominating committee followed by the election of the divisional administrative committee for 1957.

Presentations announced to date for *Monday morning, May 21*: include Aerosol Division. "Non-Flammable Paint Strippers (part II): Additives, Activators, Thickeners and Evaporation Retarders" by John P. Sheehy, Solvay Process Division, New York; "Propellant

A—A New Propellant Blend" by Winston H. Reed, Aerosol Process Co., Bridgeport, Conn.; a paper by H. A. Campbell, Bureau of Explosives, Association of American Railroads, New York; "Particle Size Determination" by Sidney Katz, Armour Research Foundation, Chicago; and the report on the Aerosol Products Survey for 1955 by Frederick G. Lodes, Precision Valve Co., Yonkers, N. Y.

Disinfectants and Sanitizers Division. "Evaluation of Mercurials" by Frank B. Engley, Jr., University of Missouri, Columbia, Mo.; "Chemical Control of Diseases Produced by Virus Infection" by Morton Klein, Temple University, Philadelphia.

Insecticide Division. "Sesamol and Related Compounds as Synergists for Pyrethrum" by Morton Beroza, U. S. Department of Agriculture, Beltsville, Md.; "Insect Resistance" by C. H. Hoffman, U.S.D.A., Beltsville, and the report on Household and Industrial Insecticide Products Survey for 1955 by George W. Fiero, Esso Standard Oil Co., New York.

Soap, Detergents and Sanitary Products Division has not announced its presentations at this time.

Monday afternoon, May 21: Automotive Division. "Engine Degreasers" by Bernard Berkley, Foster D. Snell, Inc., New York; "Paper Chromatography as a Method of Control" by John J. Singer, EDTA Products, Westboro, Mass.; "New Lucite Paints for Automobiles" by a speaker from E. I. du Pont de Nemours & Co., Wilmington, Del.; "Newer Polishes for Automobiles" by George F. Sharrad, Hollinghead Corp., Camden, N. J.; "What the Auto Manufacturer Expects in Automotive Cleaners" by John M. Clark, Studebaker-Packard Corp., Detroit; "Brake Fluid Legislation" by Robert L. Ackerley, Sellers & Conner, Washington, D. C.; and reports on the Brake Fluid Survey for

1955 and on the Anti-Freeze Survey for 1955 by C. E. Allerdice, Jr., Bell Co., Chicago.

Waxes and Floor Finishes Division. "A New Approach to Performance Standards for Floor Waxes and Polishes" by J. Fassett, Director of the Service Department, American Hotel Association, N. Y. John R. Davidson of Semet Solvay Petrochemicals Division, New York, and John Frump, Commercial Solvents Corp., Terre Haute, Ind., are scheduled to present papers in this session which will be concluded by the report on the Waxes and Floor Finishes Survey for 1955.

Tuesday morning, May 22: General session. Address of president, E. G. Klarmann of Lehn & Fink Products Corp., New York; report of secretary by H. W. Hamilton, C.S.M.A., and report of treasurer by P. C. Reilly, Reilly Tar & Chemical Co., Indianapolis.

Tuesday Afternoon, May 22: Panel discussion of the Aerosol Division on "Forecasting in the Aerosol Business." Joint session of Disinfectant and Sanitizers and Insecticide Divisions: "Transmission of Communicable Diseases Through Insect Infestation" by Justine Andrews, Assistant Surgeon General, U. S. Public Health Service, Washington, D. C.; "Current Situation Regarding Mandatory Labeling Requirements of Insecticides and Disinfectants" by J. D. Conner, C.S.M.A. Counsel, Washington, D. C.; "Current Problems Relating to Precautionary Labeling of Insecticides and Disinfectants" by A. Haldane Gee, Foster D. Snell, Inc.

Joint meeting of the Automotive and Soaps, Detergents and Sanitary Chemical Products Divisions is also scheduled.

— ★ —

New Potash Director

William J. Hutchinson has been named a director of American Potash & Chemical Corp., Los Angeles, Calif., it was announced recently by Peter Colefax, president. He fills the vacancy created by the death of William J. Murphy, in December of last year.

Dermody of Gulf Retires

W. E. Dermody, director of advertising for Gulf Oil Corp., Pittsburgh, retired April 4 at age sixty five. He had been with Gulf for the past twenty-two years. When Dermody joined Gulf in 1934 as manager of specialties sales, succeeding the late Wallace Thomas, and became widely known in the chemical specialty field, principally through his successful promotion of Gulf industrial and household insecticides. In 1949, he became director of advertising responsible for the entire Gulf program. Mr. Dermody was born in Galveston, Texas, and attended school and college in New Orleans and Virginia. Prior to joining Gulf, he was associated with Goodyear Tire & Rubber Co. He resides in Sewickley, Pa. where he plans to continue to live.

Pickett Joins Pennsalt

Wiley J. Pickett has joined the technical sales staff of Pennsylvania Salt Manufacturing Co., Philadelphia, it was announced late in March. He will direct the intro-

duction of Pennsalt's new line of aerosol propellants. Trade-named "Isotrons" the propellants will be produced in a plant at Calvert City,



Wiley J. Pickett

Ky., scheduled for completion late this year.

Mr. Pickett comes to Pennsalt from Lever Brothers Co., New York, where he served as eastern district sales manager of the industrial detergents department. He has been employed in technical service and sales management for the past 15 years.

A major spring promotion to celebrate the 120th anniversary of B. T. Babbitt, Inc., New York, features a "5 cent sale" on the popular giant economy size of "Bab-O" cleanser. One giant size can of the cleanser may be had for five cents with each purchase of two cans for the regular price. A special three-can package, which advertises the sale, has been designed for the promotion.



APRIL, 1956

Ky. Soap Labeling Bill

A bill requiring the use of standard size containers of net weights of one, two and five pounds for soaps and detergents in chip and powder form was introduced as Senate Bill No. 252 in Kentucky recently. The bill specifically excludes bar soaps. The bill also calls for net weight marking and the percentage of soap content, and the name and address of the actual manufacturer "printed or plainly marked on it in letters and figures clearly legible."

Grady in New Job

Anthony G. Grady, well known entomologist and co-author of the Peet-Grady Test, joined Sinclair Chemicals, Inc. in Chicago on April 1. For the past twenty years, Mr. Grady had been chief entomologist for the Sinclair Refining Co. at East Chicago, Ind. After many years in the manufacture of industrial and household insecticides, including P D brand, Sinclair has withdrawn from the insecticide business. Mr. Grady joined the subsidiary company, Sinclair Chemicals, Inc. where his efforts will be directed to the marketing of special solvents to the insecticide and aerosol industries.

Hooker Fluorocarbons

Four new chlorofluorocarbons were introduced last month by Hooker Electrochemical Co., Niagara Falls, N. Y. Available in research quantities the new compounds are 2,3-dichlorohexafluorobutene-2; 1,2-dichlorohexafluorocyclopentene-1; 2, 2, 3, 3-tetrachlorohexafluorobutane; and 2,2,3-trichloroheptafluorobutane.

MM&R Entertains DSC

Magnus, Mabee & Reynard, Inc., New York, gave a reception and cocktail party last month at the Waldorf Astoria Hotel for members and manufacturers attending the annual meeting of Druggists Supply Corp., Inc. Over 500 wholesale druggist members and manufacturers who exhibited at the meeting were present at the affair.

Cook Names Haynes

Don C. Haynes has been named promotion manager of Cook Chemical Co., Kansas City, Mo., it was announced late last month. In his new position he will be responsible for promotion and advertising of Cook's line of "Real-Kill" household insecticides. Prior to joining Cook, Mr. Haynes was associated with Jackson, Haerr, Peterson & Hall, Jefferson City, Mo., advertising agency.

Chemical Service Folder

A folder entitled, "The Creed that Built a Built," illustrating and describing the new chemical specialties plant of Chemical Service of Baltimore, Inc., Baltimore, was issued recently. The creed, written by Bernard F. Freudenthal, president, includes the following points: "quality in every product," "fair and honest pricing," "never ceasing technical and promotional research to create new and better products and ways . . . to sell them," "and a sympathetic understanding of (the customer's problems) and a sincere desire to help solve them." Facts on the size and capacity of the new plant, as well as a listing of the full line of the company's "Lab" private label products for sale through sanitary supply distributors are included in the folder.

Prentiss to Relocate

Prentiss Drug and Chemical Co., New York, manufacturer of insecticides, rodenticides and fungicides, recently leased more than 68,000 square feet of space in a group of one and two story buildings in Newark, N. J. The firm will occupy quarters formerly occupied by Calco Chemical Co. in Newark. The Prentiss plant is presently located on King St., Brooklyn, but must soon vacate this property to the Port of New York Authority.

Little Buys Miner Labs

Arthur D. Little, Inc., Cambridge, Mass., has acquired Miner Laboratories, Chicago, effective April 1. The transaction was an-

nounced late in March by Raymond Stevens, president of A. D. Little and Carl S. Miner, founder of the laboratories bearing his name.

The new ADL Midwest Division-Miner Laboratories will be managed by John R. Kirkpatrick, who established Little's midwest office in 1952. Technical operations of the division will continue to be under the direction of C. S. Miner, Jr., and will supplement Little's main Cambridge research laboratories in work for clients in the midwest.

AOCS Short Course

"Unit Processes in the Fatty Oil, Soap and Detergent Industry" will be the theme for the eighth annual short course sponsored by the American Oil Chemists' Society to be held at Purdue University, Lafayette, Ind., July 16-20.

Drying of soaps and detergents, automation, mixing, fat splitting, saponification, production of fatty alcohols, hydrogenation, and a number of allied subjects are slated for study. Registration fee for the course is \$50. Registration forms and further information can be obtained from the AOCS office at 35 East Wacker Drive, Chicago 1.

New B&M Detergent

Baird & McGuire, Inc., Holbrook, Mass., recently introduced a new self-indicating iodine based germicidal detergent called "Iodet." The new detergent-sanitizer, according to the manufacturer, loses its color as its germicidal qualities decrease.

"Iodet" is also said to be unaffected by hard water and is non-staining and free rinsing. In addition, Baird & McGuire claim that their new product will clean and sanitize in a single operation.

Free samples and complete information on "Iodet" are available on request to Baird & McGuire, Inc., Holbrook, Mass.

Par-Busters Outing

Par-Busters golf auxiliary of the Chicago Perfumery, Soap and Extraction Association will hold their first outing of the season on May 17 at the River Forest Country Club, River Forest. The group will have a swing party Aug. 23 at Medinah Country Club. Members are asked to contribute prizes or cash and to send their contributions to Joe Sell, Mallinckrodt Chemical Works, 307 Michigan Avenue, Chicago 1.

New 16-ounce king size moth spray of Fuller Brush Co., Hartford, Conn., is designed to control clothes moths and carpet beetles. New 16-ounce unit retails for \$2.25; the 12 ounce container is \$1.99. Container by American Can Co.





liquid detergent

RAW MATERIALS

Among the many synthetic liquid detergent raw materials offered by the Stepan Chemical Company, you are certain to find just the right characteristics for your use and price requirements. Our laboratory would, of course, be pleased to work with you on any particular problems you might have.

Many formulators find that the completeness of

the Stepan line of liquid detergent raw materials makes it readily possible to achieve substantial economies by ordering mixed truckloads or carloads effecting the lower carload price on all of the individual items.

A few of the products of particular interest in the Stepan line of liquid detergent raw materials are given below.

STEPAN

DS-60

A specially processed, desalted, sodium alkyl aryl sulfonate. It is a high active slurry in an alcoholic solution and is an excellent and economical foaming, wetting and dispersing agent. In addition to its use in liquid dishwashing detergents, it is also an effective detergent for cotton, wool and synthetic fibers.

STEPAN

LDA

A 100% active, fatty acid alkylolamide and nonionic in character. It provides superior foam stability, detergency, and gives good sudsing quality in the presence of grease. LDA is also noted for being a splendid thickening agent, and an auxiliary emulsifier helping to counteract the defatting action of alkyl aryl sulfonates.

STEPANOL

B-153

An ethoxylated nonyl phenol sulfate, 60% active. It is a clear amber liquid with a mild, pleasant alcohol odor. B-153 gives a high and closely knit flash foam to liquid dishwashing detergents. It is also a good auxiliary detergent and is relatively mild to the skin.

MAKON

10

A 100% active ethoxylated nonionic. It imparts excellent grease emulsification to liquid dishwashing detergents and makes possible better drainage, helping to eliminate film. Among its other advantages NP-10 can aid in lowering the cloud point of a liquid detergent formulation.

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HYONICS**

HYONIC PE 225

*(100% active nonionic ethylene
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A powerful, low foaming detergent
over wide temperature ranges.

Compatible with soaps, anionics, ca-
tionics; effective in solution with
metal salts and alkaline builders.

Soluble in wide range of organic sol-
vents and electrolytic solutions.

Suggested uses—automatic laundry
and dishwasher detergents, car wash
powders, wall and floor cleaners.

HYONIC FA 20

*(100% active alkylolamide
condensate)*

Excellent detergency on fabrics.

High foaming, a good wetting agent
with low viscosity curve.

Effective with alkaline builders.

Suggested uses—Dairy cleaners,
household degreasers, wax emulsions.

HYONIC FS

*(100% active lauric acid
alkylolamide condensate)*

Superior foam stabilizer for anionics.

Remarkable thickening action over
a wide range of concentrations.

Non-corrosive—can be stored
indefinitely.

Excellent detergent and wetter and
shows remarkable synergism when
blended with anionics or nonionics.

Suggested uses—liquid dishwasher,
clear liquid shampoo, bubble bath.



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was it so easy to tailor your product to your exact
performance and sales needs! And at competitive
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What's more, Sulfamic Acid is a free-flowing dry material that makes possible the safest, most easy-to-handle package . . . eliminating bottle-packing problems, breakage, damage from spilled acid, and inconveniences of returnable containers.

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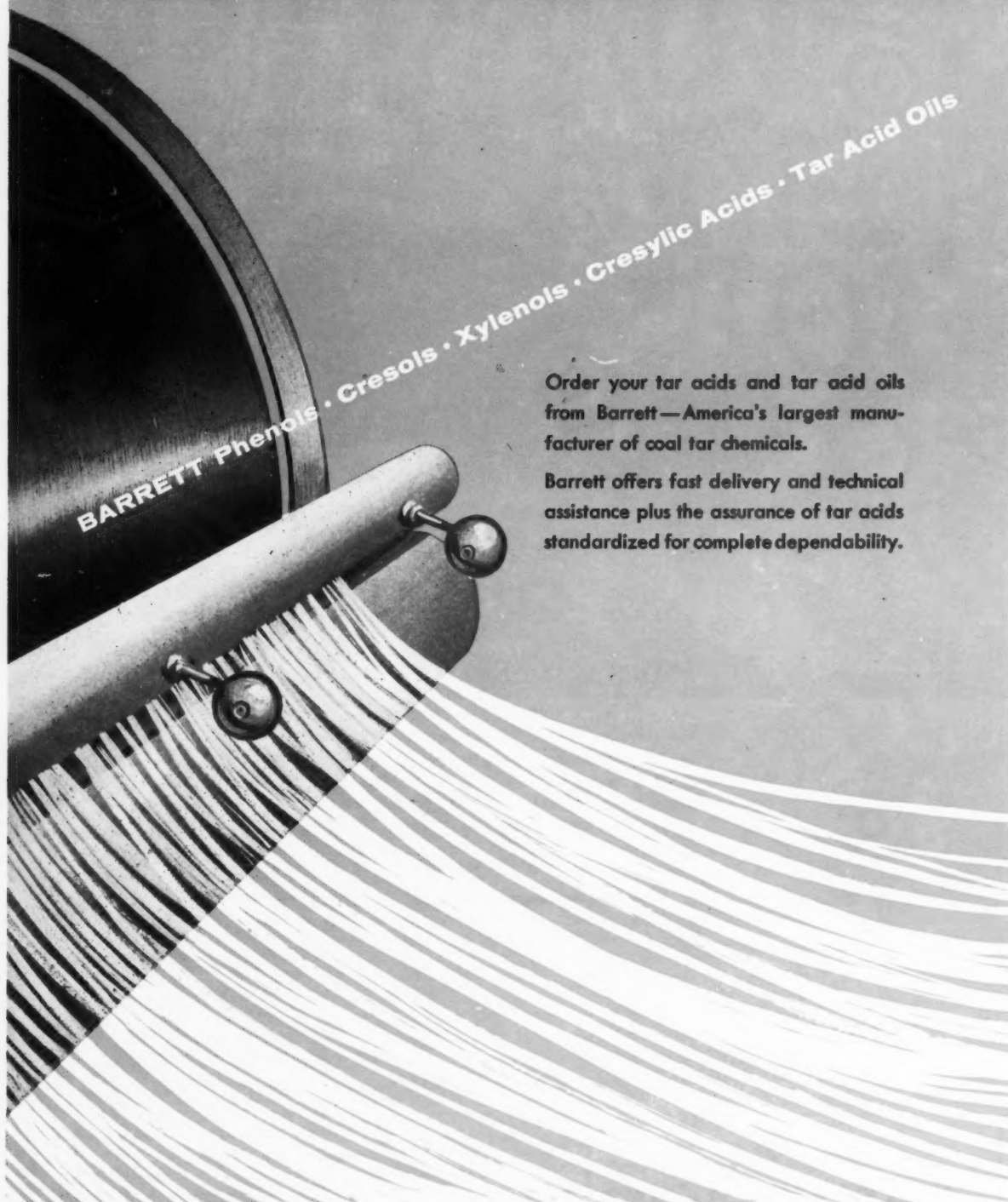
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- Its high quality never varies, enabling you to manufacture uniformly dependable products.
- Always lower in cost than the natural oils, particularly now with citronella prices so high. Its use results in production economies and higher profits without lowering quality standards.



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Ethyl Alcohol for detergents or Isopropyl Alcohol for rubbing—order from the Enjay Company, one of the world's foremost suppliers of alcohols. You are assured of a dependable supply of uniform, high quality products.

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Enjay offers a diversified line of petrochemicals for industry. LOWER ALCOHOLS (Isopropyl Alcohol, Ethyl Alcohol, Secondary Butyl Alcohol); HIGHER OXO ALCOHOLS (Isooctyl, Decyl, Tridecyl Alcohol); and a varied line of OLEFINS AND DIOLEFINS, AROMATICS, KETONES AND SOLVENTS.



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LIQUID—Iron free, a clear water-white solution of 45-50%. In tank cars and in returnable and non-returnable 675 lb. drums.

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Celite provides its exceptional clarity by means of a filter cake that is

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The soap made with Armour Neo-Fat Red Oil keeps its color—continues after a 4 week heat stability test to look and smell as fresh as the day it was made. The soaps made with other brands of red oil started to change color early in the test and after 4 weeks were worthless.



Sodium soap made with Armour Neo-Fat 94-04 (Red Oil).

Sodium soap made with Brand "A" Red Oil.

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54

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No. of hrs. to reach 105° C.	1	2	3	4	5	6
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Brand "A" Red Oil						
Brand "B" Red Oil						
Brand "C" Red Oil						
Brand "D" Red Oil						
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Mackey Test comparisons show Armour Red Oils have 21.2% greater oxidation stability than the next best brand. The Mackey Test measures resistance to oxidation; is based on the time required to reach 105° C.



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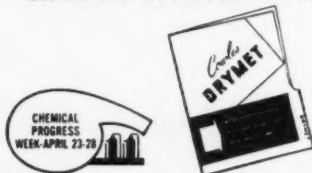


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shampoo can be**

Her Favorite Brand

Use Du Pont *Duponol** EP in your formula

GIVE HER A BEAUTIFUL SHAMPOO, and that's the one she'll buy. "DUPONOL" EP won't fade or discolor. It keeps its cosmetic elegance on display.

GIVE HER A BETTER SHAMPOO, and she'll come back to buy it again. "DUPONOL" EP is laboratory-tested and controlled for quality to give you uniform formulations time after time. What's more, you save time and effort with "DUPONOL" EP. It has greater response . . . requires less thickener . . . keeps its cleansing and foaming action.

GIVE YOURSELF MORE SALES by formulating with Du Pont's detergent "DUPONOL" EP. You'll find many advantages; for example, "DUPONOL" EP is the first detergent on the market

to formulate into a wide variety of clear-liquid and liquid-cream shampoos. For more facts, send for our bulletins and formulas. E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Dept., Dyes and Chemicals Division, Wilmington 98, Delaware. We're glad to help.

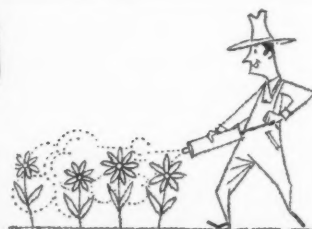
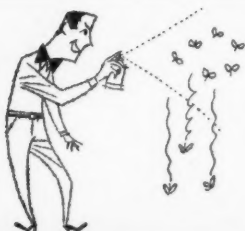
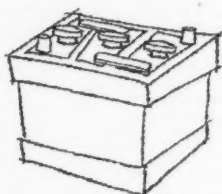
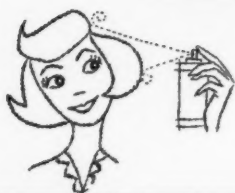
DU PONT *Duponol* **EP** DETERGENT



*REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Chemical Specialties



If You Make Any of These...
LOOK TO GENERAL AS YOUR DEPENDABLE SOURCE OF CHEMICALS

Soaps, Detergents and Sanitary Chemical Products

For Soaps & Synthetic Detergents: Tetrasodium Pyrophosphate, Sodium Tripolyphosphate, Sodium Sulfate, Sodium Silicate.

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For Liquid Detergents: Ammonium Hydroxide; *For Toilet Bowl Cleaners:* Muriatic Acid.

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Genetron* Propellants—a propellant for every aerosol need.

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Oxalic Acid, Trisodium Phosphate.

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For personal aerosols—Genetron Propellants.*

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For radiator cleaners—Oxalic Acid; *For storage batteries—Electrolyte Sulfuric Acid and Lead Fluoborate Plating Solutions.*

For process applications—Metal Fluoborate Plating Compounds; Inorganic Acids; Alkali Cleaners.

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For further information, call or write the nearest General Chemical office listed.



GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

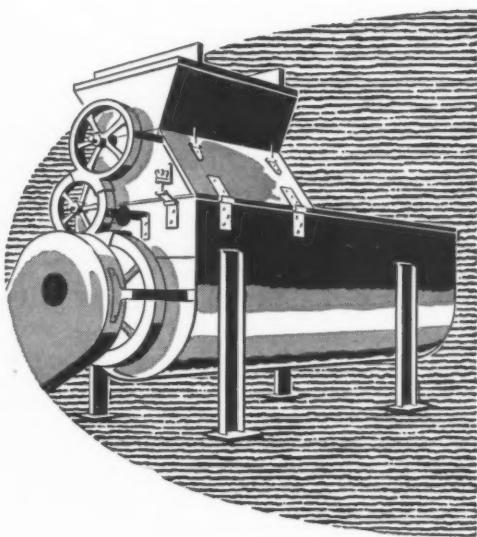
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Offices: Albany • Atlanta • Baltimore • Birmingham • Boston • Bridgeport • Buffalo • Charlotte • Chicago • Cleveland • Denver • Detroit • Greenville (Miss.) • Houston • Jacksonville • Kalamazoo • Los Angeles • Milwaukee • Minneapolis • New York • Philadelphia • Pittsburgh • Providence • San Francisco • Seattle • St. Louis • Yakima (Wash.)

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Chemical-Specialty Manufacturers Depend On Colgate-Palmolive Quality Ingredients To Make Their Products



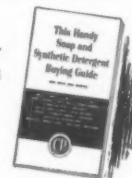
For many years, Chemical-Specialty and Toilet-Goods Manufacturers have depended on Colgate-Palmolive for quality ingredients.

Now, and in the future, you can look to Colgate-Palmolive as a source of quality soaps and synthetic detergents for use in the manufacture of your products.

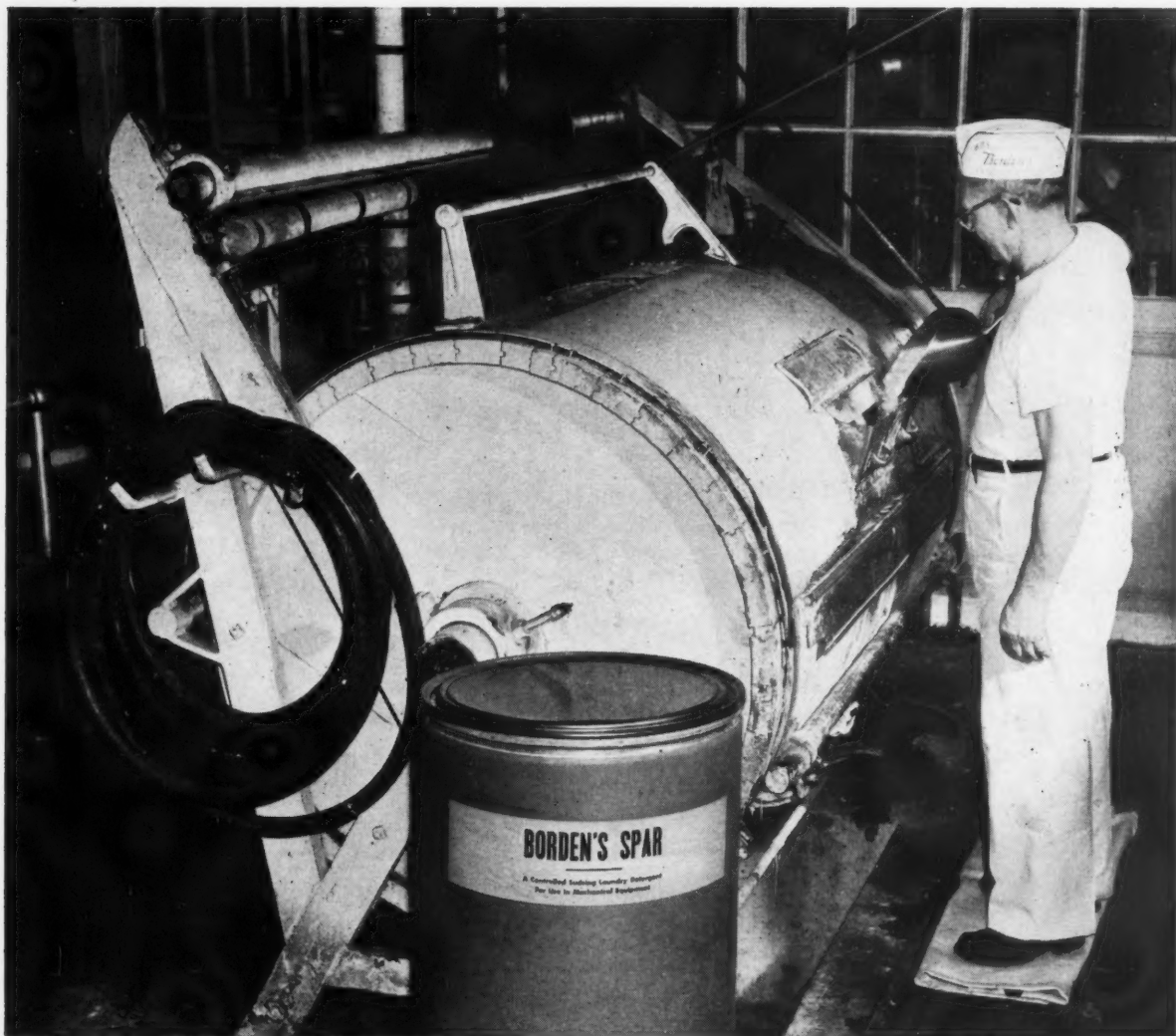
Write today to our Industrial Department for samples and technical data. *There's no cost or obligation!*

Or, get in touch with your local C.P. Industrial representative.

FREE! New 1956 Handy Soap and Synthetic Detergent Buying Guide. Tells you the right product for every purpose.



Colgate-Palmolive Company
300 Park Ave., New York 22, N. Y.



In Food Plant Laundries, too, THE KEY IS CMC



Where cleanliness must be the byword—as in the plants of the Borden® Company—a controlled sudsing detergent based on Hercules CMC provides an efficient and economical formulation for laundering plant uniforms.

The addition of CMC to Borden's own "Spar" supplies the exceptional soil-suspending properties that prevent redeposition of dirt on clothes. With CMC, uniforms get whiter, faster—dirt particles always go down the drain with the rinse

water. And with CMC you save hot water in your washing operations.

The advantages of economical CMC are well-known to commercial laundries and leading manufacturers of detergents everywhere. If you are among the few who have never tested CMC . . . do it now! Technical information and a testing sample are available on request.

Virginia Cellulose Department
HERCULES POWDER COMPANY
INCORPORATED
 961 Market St., Wilmington 99, Del.

V556-1

... in brief

as the editor sees it . . .

JUDGMENT . . . The recent lawsuit in Florida in which a judgment of \$160,000 was awarded in the death of a man from solvent poisoning is significant to every chemical specialty marketer in the country. The man used carbon tetrachloride to remove varnish from a floor, it seems, and died following its use.

At the trial, it was brought out that the container carried warnings against inhaling or skin contact, and also mentioned ample ventilation. However, the label did not carry any signal word or warning such as "caution" or "warning" in large type. And the court found against the defendant, a reputable fine old house.

Evidently, the courts also are conscious of the present agitation to avoid "chemical" poisoning and their judgments are likely to be influenced accordingly. Our feelings are that this large judgment may be reduced or reversed by a higher court. Nevertheless, we feel that it still behooves manufacturers and marketers of all chemical specialties to give their labels a going over and to make necessary changes and additions.

* * * * *

LMORE STANDARDS . . . The American Standards Association at the request of the American Hotel Association has formed a series of committees to establish minimum performance standards for certain institution cleaning and maintenance supplies. These include standards for dishwashing, metal polishing, surface cleaning, textile cleaning including carpet and upholstery cleaning, plus a committee to cover labeling and certification.

These committees are comprised of representatives of manufacturers and consumers including technical experts from several leading trade associations. Members of the Chemical Special-

ties Manufacturers and the Soap Association form part of the committees. Apparently they believe that they had better go along in this work primarily to keep a sharp eye on what is done and to help avoid unsound conclusions. At least we have a hunch this may be their thinking in part.

For years, we have thrashed out the question of standards, performance and otherwise. We're skeptical that they mean much. Rather always we would accept the brand and label that we know well.

* * * * *

LSELF SEEKERS . . . For some years now, we have sat silent at various and sundry trade meetings of one sort or another and listened to a lot of palaver, palaver mostly in the form of papers on any subject under the sun. Many of them are unadulterated tripe. Others are sales spiels, pure and simple, delivered by opportunists. And many business men spend days of their time plus expenses to sit and listen to such stuff. Mixed in, upon occasion, but not always, are some good papers or speeches which warrant the time spent in listening to them. But it seems to us that as time goes on, the latter become more rare.

What to do about these self seekers and tripe dispensers? Cut them off the program? In advance? And what's going to fill up the program time? What about the harried program chairman? Well, for one thing, we feel that better policing of speeches in advance as is done by some groups is vitally necessary. If the elimination of some papers calls for a shortening of the program, let's shorten it. But above all, cut out the trash and sales talks. It's getting to be real bad in several directions. Time to do something.

Now water transportation to Midwestern Soapers!

*in addition to our speedy rail-truck
delivery throughout Industrial America*



Tank-car delivery of WESTVACO Alkalis from our South Charleston, W. Va. plant to customers' sidings frequently has been hours to days faster than from plants miles nearer on the map. Now for those who rate cost ahead of speed, we offer scheduled barge-delivery service via the Kanahwa River and the Ohio-Mississippi inland-waterways system.

While steadily improving delivery service, we are also well along on a major plant modernization program that makes South Charleston one of America's oldest, largest and most efficient Chlor-Alkali operations.

So for both quality and service to the New England, Middle Atlantic, Midsouthern and Midwestern states, always get a price and delivery quotation from Westvaco.

Westvaco®

CAUSTIC SODA

Liquid 73%
Liquid 50%, Regular and Low — Chloride Grade
Flake, Solid and Ground, 76% Na₂O

CAUSTIC POTASH


45 and 50% Liquid — Flake and Solid



Westvaco Chlor-Alkali Division
FOOD MACHINERY AND CHEMICAL CORPORATION


161 E. 42nd St., New York 17 • Charlotte, N. C. Chicago Denver Philadelphia St. Louis

FMC CHEMICALS INCLUDE: BECCO Peroxygen Chemicals • WESTVACO Alkalis, Chlorinated Chemicals and Carbon Bisulfide • NIAGARA Insecticides, Fungicides and Industrial Sulphur • OHIO-APEX Plasticizers and Chemicals • FAIRFIELD Pesticide Compounds and Organic Chemicals • WESTVACO Phosphates, Barium and Magnesium Chemicals


 **PACKAGING . . .** New things in packages have come with breath-taking rapidity over the past year or two. This was emphasized more than ever at the recent Packaging Exposition at Atlantic City. New packages, wholly new ideas in folding boxes, cans, glassware, aerosols, squeeze bottles, what not; new equipment which does about everything but play music. Revolutionary ideas unthought of a few short years ago. Yes, siree, we're in the very midst of a packaging renaissance, mostly the outgrowth of our new way of life.

Rapidly, we're becoming a nation of chains and supermarkets. The battle is not only in package ideas, but in supermarket shelf space for the same ideas. Today, the package is the salesman, delivery boy and product all wrapped up in one. More and more we hear of the impulse shopper, the dame who walks in and grabs a package just because it strikes her fancy at the moment. Packages are designed to be seen and bought. The contents seem to be forgotten in the mad rush. How long this pace of new things will continue, we don't know, but it sure livens things up while it lasts.


* * * * *

 **TOUGH WINTER . . .** Europe has just come through one of the toughest winters in history. Millions upon millions of damage resulted from the ice and cold. Normally warm climates had freezing temperatures. Agriculture in all forms has been hard hit and the full damage is not yet appraised. Included in the damage were the orange, lemon and other citrus industries of Italy, lavender and spike of France and Spain, and other essential oil producing plants and trees. Neroli was especially hard hit according to reports.

That this extreme cold of the past winter may bring acute shortages of many French, Spanish and Italian perfume oils later in the year seems quite apparent. Higher prices, it is said in the trade, are inevitable as the oils simply will not be available. The natural consequence of this should mean even a more rapid switch to synthetics, a trend which has been quite apparent during the past ten years. The blow to some of the natural oil producing centers of Europe could be almost fatal.

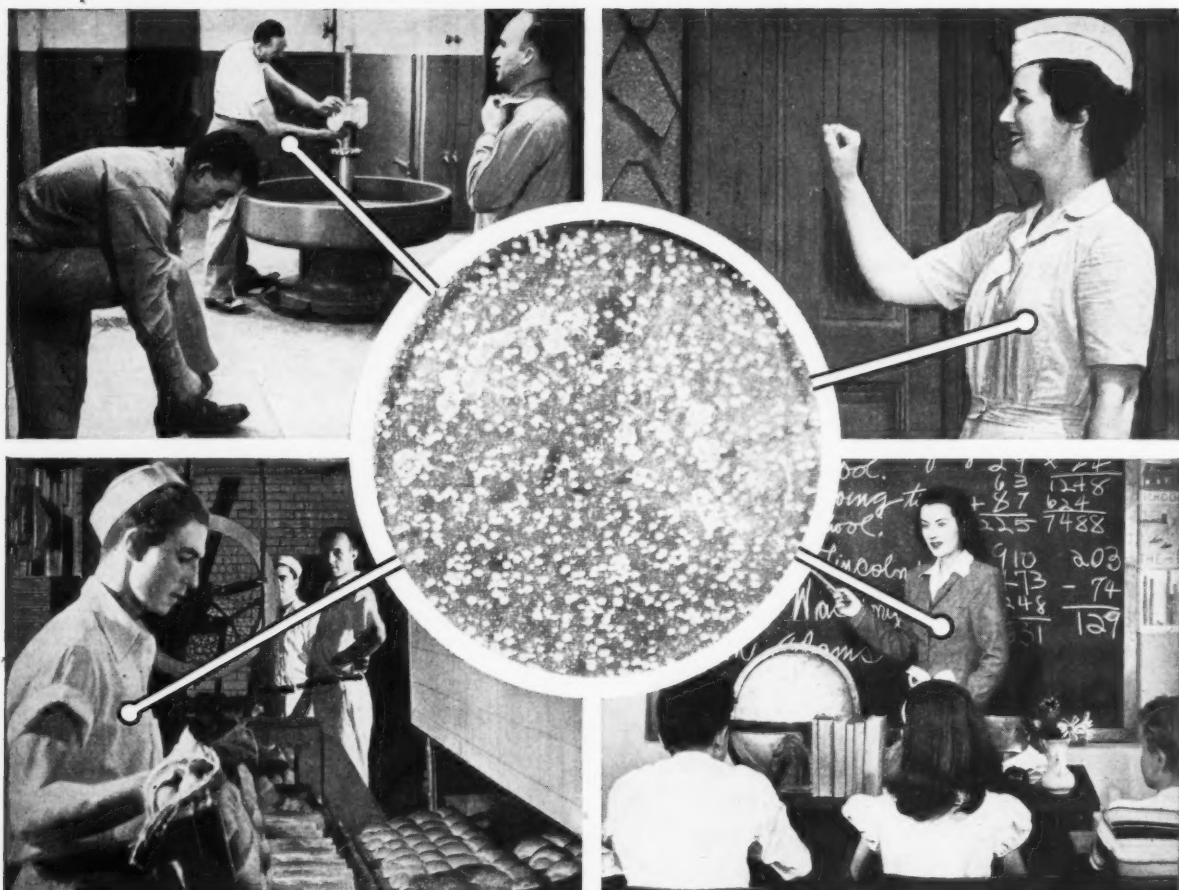
 **COSTS . . .** Price increases in containers and container board, as well as in some chemical specialties' raw materials, may be forerunners of price advances right down the line. Whether or not this will become widespread remains to be seen. However, the whole price situation today should be watched closely, and prices of finished products brought into line with these advances as quickly as possible. With the cost of doing business creeping up in sales, production and marketing, the specialties maker who fails to keep a close check on his raw materials and container costs may be in for trouble.

* * *

 **QUATERNARY VICTORY . . .** Recognition of the effectiveness and safety of quaternary ammonium compounds for the treatment of milk utensils, containers and equipment has at long last been granted by U. S. public health officials. In the third printing of the Milk Ordinance and Code-1953 Recommendations of the Public Health Service, the full text of which appears elsewhere in this issue, Appendix F has been revised to include the quats under specified conditions. Section 2, Chemical Bactericides also includes a new section covering Detergent-Sanitizers.

At its March, 1955 meeting, the Food Sanitation Advisory Board of the U. S. Public Health Service recognized the advances made in the formulation of products for the combined cleaning and bactericidal treatment of certain types of milk utensils and equipment. The Board also recognized recent research which established calcium and magnesium as the primary cause of interference of natural waters with the bactericidal effectiveness of the quaternaries, and endorsed procedures whereby the usefulness of such products in individual water supplies may be judged by testing for water hardness.

All this adds up to a sizeable victory for the quaternary producer after a long, hard fight. The main effect should be that local health authorities in areas where water conditions favor the use of quaternaries will approve such products. The new ruling should give the quaternary makers a real lift and should stimulate further the already extensive research done on these products.



To fight bacteria more effectively, give your personnel

Cleanliness that clings with **G-11[®]** (Hexachlorophene)

Ordinary cleansers remove dirt but leave millions of bacteria on the skin. *G-11* soaps and detergents reduce the bacterial population. Their regular use leaves an anti-bacterial deposit that does not rinse off but stays on the skin day in and day out to provide *cleanliness that clings*.

G-11 is one of the most effective ways to protect your people against skin infection—the cause of much costly absenteeism—while helping to prevent contamination of the materials they handle!

Whether your responsibility is a factory, hospital, food plant, school, restaurant or commercial building, you can give your

personnel cleanliness that clings and intensify your attack on skin bacteria with products containing *G-11*.

Hexachlorophene soaps and detergents are non-irritating to the skin and can be used in all types of soap dispensers without fear of corrosion. Ask your supplier for full information.

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SOAP and CHEMICAL SPECIALTIES

as the reader sees it...

Not Andersonville

Editor:

The March issue has just reached my desk and we want to tell you that we were very pleased with the story (of the 125th anniversary of Philadelphia Quartz Co.) which you presented on page 52. It is very attractively laid out.

There is just one small error in the caption under the cut of the modern silicate plant on page 52. The location of the plant is Anderson, Ind. It is correctly stated in the article.

FRANCES M. SUAREZ,
Advertising manager
Philadelphia Quartz Co.
Philadelphia

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To Miss Suarez and Philadelphia Quartz Co. our apologies. Perhaps it was the influence of the book, "Andersonville", which caused us to locate the plant there instead of in Anderson, Indiana. Ed.

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"...can't find a single one"

2.) Is there such a thing as an "ideal" soap product of any kind?

It occurs to me and my associates, many of whom have had long and varied experience in the making and selling of soaps of all kinds, that NONE could be classified as "ideal" if "ideal" is interpreted to mean desirable in every respect for every user.

Two of our products were included in the tests conducted by the U. S. Public Health Service and both were approved. This is given

simply in qualification of the above questions which concern us because they do bear heavily on the sincere efforts we have made to produce a good product to meet a specific need. Surely it is agreed that a product such as ours, and in fact all of those approved, is far better and safer to use than kerosene, gasoline, naphtha, turpentine and other straight solvents for the removal of stubborn soil.

Perhaps you would have used the same heading if the tests had involved any soap product. Or was it a case of subordinating straight facts to something "catchy"? Think about this from your readers' point of view, then when the spirit moves you in any way drop me a line.

A. H. DICKMEYER, President
Hammons Products, Inc.
Fort Wayne, Ind.

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This letter raises another question. Should all criticism of the industry or its products be left out and only good things said about them be published? We feel the answer to that is no. If the U. S. Public Health Service feels that there is no "ideal" waterless hand cleaner, then makers of these products should know about USPHS' attitude. This contributes to progress, since it provides the industry with an opportunity to demonstrate the value of what it considers good products to the critics, or it stimulates the industry to make better ones. It also gives sales ammunition

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One final thought. Perhaps the U. S. Public Health Service is too critical of waterless hand cleaners. On the other hand its thinking may be attributed to the fact that a large majority of the cases of absenteeism in war plants during World War II was due to dermatitis. Ed.

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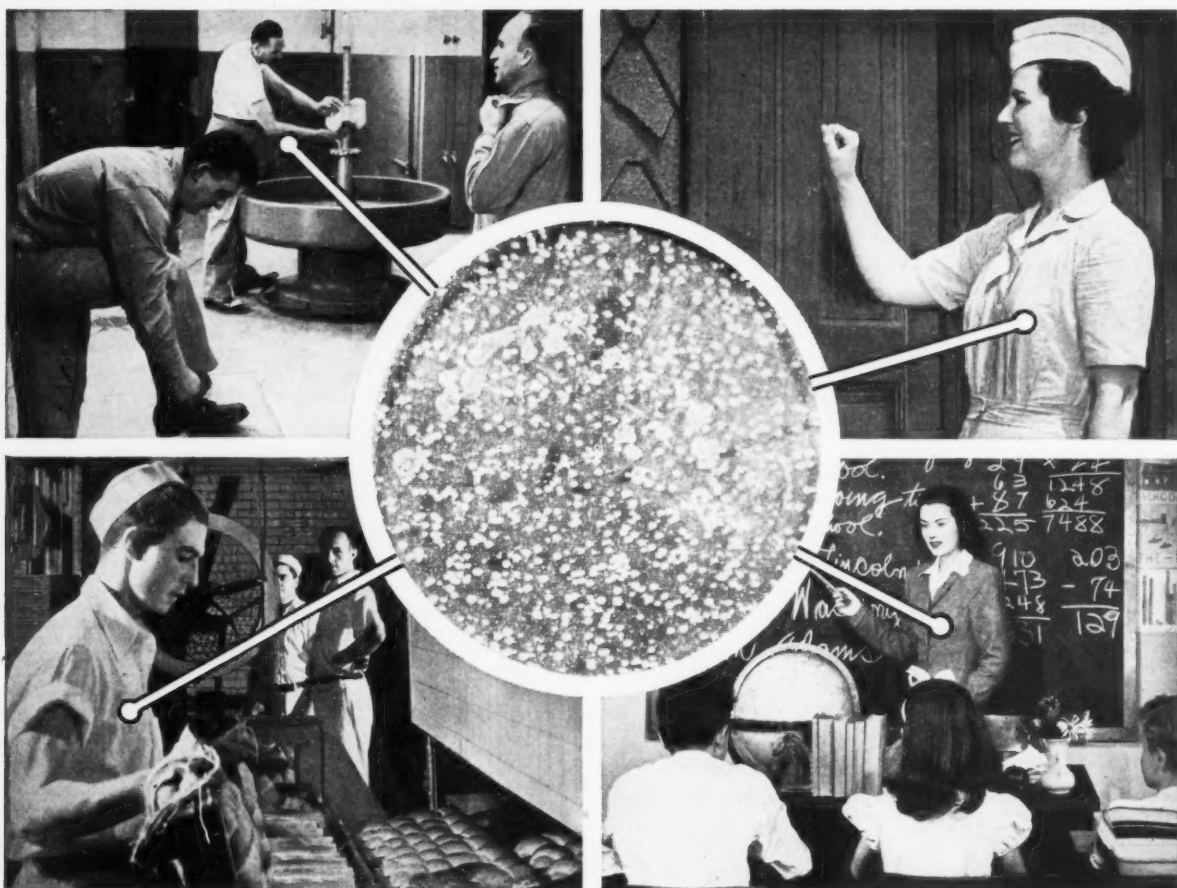
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Hockenyos with Sentinel

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(Hexachlorophene)

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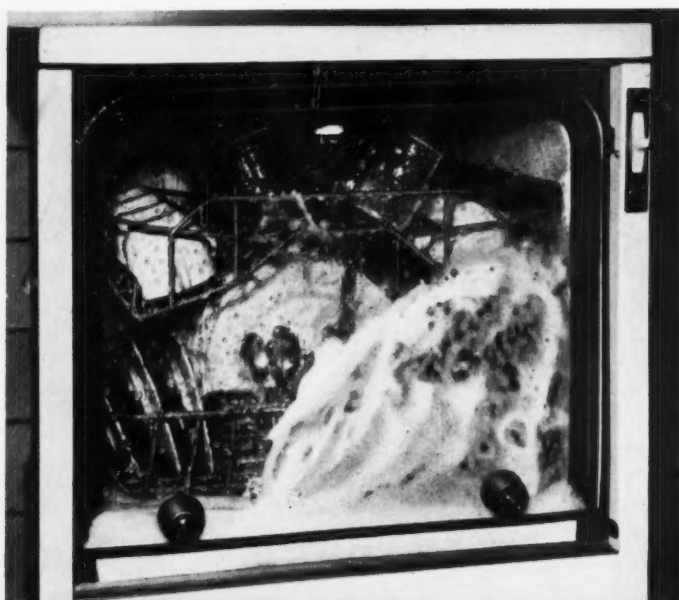
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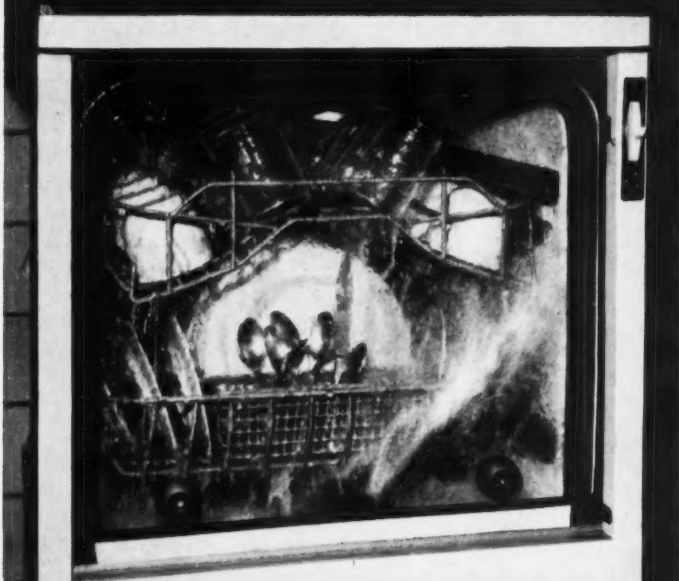
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Conventional low-foam Detergent

Notice excessive foam 3 minutes after beginning of wash cycle.



TRITON CF-10

Notice how suds are controlled (after same length of time) for better dishwasher operation.

End Excessive Foam with High-Detergency **TRITON CF-10**

Detergents containing TRITON CF-10 do not foam excessively even when violently agitated. The result is that automatic dishwashers can do their job better, and kitchenware rinses clean without streaks or spots. At the same time, TRITON CF-10 has such excellent detergent properties that it effectively removes soil from the hardest-to-clean plastic ware. Investigate TRITON CF-10 for your cleaning compounds today.

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Chemicals for Industry

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COMPANY**

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Soaps In Synthetic Rubber

By Donald Druesedow*

B. F. Goodrich Chemical Co.

Akron Experimental Station

THE production of synthetic rubber requires large amounts of soaps as emulsifying agents. As shown in the adjacent table (I). GR-S rubber is the bulk of synthetic rubber consumed. Neoprene and nitrile rubbers are, however, large tonnage items. GR-S, neoprene and nitrile rubbers are made by emulsion polymerization, while butyl rubber is not.

In GR-S synthetic rubber production, about six to seven pounds of soap are used for each 100 pounds of rubber hydrocarbon produced. Neoprene and nitrile rubbers use similar amounts. On a percentage basis, the soap used is about 6% of the rubber production. The large volume soaps now used in synthetic rubber production are rosin soaps, fatty acid soaps, mixed rosin acid-fatty acid soaps and, by comparison, small amounts of synthetic soaps and soaps derived from tall oil.

The actual consumption of fatty acid soaps in synthetic rubber production is probably available in the literature and market surveys. The proportion of fatty acid soaps used in GR-S production can be roughly estimated for 1954. (Table II) As a guess, the 1955 proportion differs in increased cold rubber production using mixed soaps at the expense of rosin soaps.

About 80% of the hot GR-S production was made with fatty acid soap. About 38% of the cold

Table I (1). 1955 Consumption of Rubber

	(First Nine Months) Long Tons	% Change vs. 1954
GR-S	532,335	55
Neoprene	52,891	27
Butyl	39,102	-18
N-Type	21,411	75
Natural	476,071	10

GR-S production was made using rosin soap. About 53% of the cold rubber production was made using 50-50 mixed rosin-fatty soaps. About 9% of the cold rubber production was made using tall oil soaps and fatty soaps probably chiefly in latex.

Past Trends in Soap Use

THE history of GR-S has been well summarized (3). As a production process, emulsion polymerization has many valuable features. Use of the process will continue to grow. Compared to other systems, the more important advantages are: (1) fast polymerization rates, (2) ease of obtaining high molecular weight product, (3) high product

concentration in the reactor, (4) good fluidity of the water dispersion with consequent good heat transfer, (5) useful form of the latex itself and, (6) ease of recovery of the product. The rubber latex from polymerization is a stable low viscosity dispersion of 20 to as high as 60% solids which can be pump transferred easily in the plant. After antioxidant addition, the lower solids latex is coagulated and dried as a rubber. For latex end use, 40% to 60% solids are often made. In GR-S production, the soaps used are converted to the acids in the coagulation process and the acids appear in the final product at about 5-6%, depending on the product.

Synthetic rubber production

Table II (2). 1954 GR-S Production and Estimated Fatty Soap Usage. Unit: Million pounds, net*

	GR-S Production	Fatty Soap Used
Hot process by all soaps	315	
4.8% fatty acid soaps, avg		14.9
Cold process by all soaps	626	
2.0% fatty acid soap, avg.		12.5
Total GR-S	941	
Estimated total fatty acid		27.4

* Estimated from 8 mos. figures. Does not include oil in oil masterbatch

*Presented at a meeting of the fatty acid division, 29th annual convention, Association of American Soap & Glycerine Producers, January 25, 1956.

was begun in 1943 using the fatty acid soap mutual recipe at 122°F. This is the so-called "hot rubber." At the start of the program the fatty acid soaps varied considerably in polymerization quality. The Rubber Reserve research program in cooperation with suppliers established the reasons for this variation and soap specifications were developed. The most satisfactory commercial material was found to be sodium soaps from hydrogenated tallow.

Rosin acid soaps began to be used about 1944 after a program in which a disproportionated rosin soap of uniform quality was developed (4). Polymerization with rosin soaps was somewhat slower than with fatty acid soaps. However, a soap cost advantage, depending on market conditions, better solubility, better latex fluidity, and the tack which rosin acids imparted to the rubber led to moderate use of rosin soaps.

It should be mentioned at this point that fatty acid rubber cures faster than rosin acid rubber in many compounding recipes. Stearic acid has been long used as a processing aid and curing recipe ingredient to improve the cure rate of rubber. To obtain faster cures with rosin acid rubber, stearic acid addition and accelerator-sulfur variations are resorted to. Therefore, compounding recipe costs are higher for rosin acid rubber.

Hot GR-S production reached about 719,000 long tons in 1954 and demand fell off sharply after the war.

Definite quality advantages for "cold rubber" produced at 41°F. led to cold rubber production in 1948 (3). The tallow soap used for hot GR-S was not suitable for large volume, low temperature recipes. Though some improvement could be obtained with the potassium soap rather than the sodium soap, gelation at low temperature, poorer fluidity and poorer latex heat transfer in production limited the usefulness of fatty acid soaps. Some latex recipes and certain special cold rubbers are now the only uses of

100% fatty acid cold recipes. The bulk of the first commercial cold rubber was made using sodium rosin acid soap. Suitable low temperature solubility and heat transfer were obtained for volume production but, even so, the potassium rosin acid soap gained favor as an improvement in these respects.

To take advantage of the higher polymerization rates obtainable with fatty acid soaps, mixtures up to 50-50 rosin-fatty acid soaps came into wide use. The treadwear and abrasion advantages of cold GR-S resulted in a steady trend to cold rubber production. Again, production experience of 1953 through 1955 showed that the fatty acid component in mixed soaps was a limiting factor. The reasons were the same ones, such as poor solubility and heat transfer. Again, the potassium fatty acid soap offered some improvement. Changes in soaps which might have allowed greater productivity became more difficult to make. The consumer had become well accustomed to the standard rubbers in production and the uniform quality and cure characteristics of each product from plant to plant. Changes in soaps might give different non-standard products with unknown consumer problems.

However, potassium tall oil soaps offered a reasonable solution for improved cold rubber production and there is a possible long term cost advantage so that producer interest in this type of soap remains high. The potassium tall oil mixed soap dissolves easily without heating in the soap makeup process in the plant and fluidity and heat transfer are good in production. The tall oil which would find first large volume use is a 50-50 rosin/fatty acid mixture replacing the current mixed soap. GR-S latex has been made successfully using a lower grade of tall oil soap of about 65-35 rosin acid-fatty acid composition.

Emulsifier Composition

THERE is a wealth of literature on emulsion polymerization and its application to synthetic rubber production. Some features affect-

ing the use of fatty acid will be discussed in more detail here.

The molecular weight of the fatty acid has a strong influence on the polymerization rate of GR-S recipes (5) (6). Soaps of C_{16} to C_{18} chain length without multiple unsaturation are best and equivalent while C_{11} , C_{12} and C_{10} soaps are slower. Linoleic, and especially linolenic acids, are the principal retarders found in fatty soaps. Tocopherol, lecithin and certain possible quinone-type impurities have little effect. (5) (7) Hydrogenation or isomerization of the unconjugated double bonds eliminates the retarding effect. Treatments such as bleaching or refining seem to be of little value from a rate standpoint but may be important for obtaining the best product color. Hydrogenated tallow is essentially equivalent in polymerization rate to highly purified acids such as elaidic, oleic, palmitic and stearic.

The amount of soap and type of soap are important determiners of the rate of polymerization (8). The rate is roughly proportional to the amount of soap. Rosin soaps give slower rates than specification fatty acid soaps. However, polymerization rate alone is not the only factor to consider. Polymerization rates can and have been improved by activated recipes and improved plant procedures (9) (10). In spite of slower rates with rosin soaps, the tack imparted to the rubber by the rosin acid and the better performance in cold polymerization recipes have justified large scale use of rosin soaps. But fatty acids are not ruled out in cold rubber production. In studies of superfast recipes for pipeline polymerization, lauric and myristic acids were successfully used in cold rubber recipes of 20 minute reaction times (11). The use of potassium fatty acid soaps gives improved performance in cold recipes by virtue of better solubility and better heat transfer. In existing production recipes for cold rubber, soaps of rosin acid or rosin-fatty acid mixtures are still better and are preferred.

Even low molecular weight fatty acids such as caprylic have been successfully used in polymerization by including quantities of electrolyte (12). The electrolyte effect in preventing soap gelation and improving latex fluidity is made use of in both hot and cold rubber recipes (13).

The control of molecular weight of the rubber is influenced by the soaps used. More primary dodecyl mercaptan is needed in hot rubber to control molecular weight of the rubber when rosin is used. The tertiary C_{12} mercaptan used in cold rubber is less sensitive to this effect. Though a minor ingredient, the mercaptans are among the more expensive raw materials. Varying quality of the soap may cause difficulty in producing uniform rubber by changing the polymerization rate and the required mercaptan to give the standard product.

Because the soap acids are retained in the product and control the cure rate of the compounded rubber, uniform soap composition is important for this reason also. It has been shown that the unsaturated fatty acids cause slower cure rate of the rubber (14). The effect of oleic acid is small but linoleic or dilauroic definitely lower cured mod-

ulus. The molecular weight of the saturated fatty acids has a minor effect above C_{10} but caprylic acid gives high modulus. The slower cure rate experienced with cold rubber made from tall oil soap has been partially responsible for delaying the use of tall oil soaps. Possibly unsaturated fatty acids in the tall oil were the cause.

Though not of significant volume, cationic recipes and recipes requiring performance at low pH have been developed. Fatty acids probably cannot meet these requirements. The emulsifier cost has always been a strong influence on the choice of emulsifier tempered by the performance requirements.

GR-S latex and nitrile rubber and latex are moderate volume specialty products with special requirements. Latex is used in a variety of ways and, frequently, high total solids are required. Common latex uses include sponge products, tire cord dip, pigment binding, fiber binding, coating and saturation. Many of the properties which make latex useful are a function of the emulsifier system. Considerable research and development is to be expected in an effort to solve the shortcomings of latices and their production. Some of the latex

properties at least partially dependent on the emulsifier are:

1. Color of dried films.
2. Color of saturated and coated products.
3. Size properties or rewettable (wet back) properties of dried films and saturated products.
4. Stability of the latex to mechanical treatment.
5. Stability of the latex through freeze-thaw cycles.
6. Stability of the latex to compounding.
7. Stability of the latex to pH changes.
8. Stability of the latex to salts or organic solvents.
9. Viscosity of the latex at high solids.
10. Particle size of the latex.
11. Foamy characteristics of the latex.
12. Tackiness of latex films.

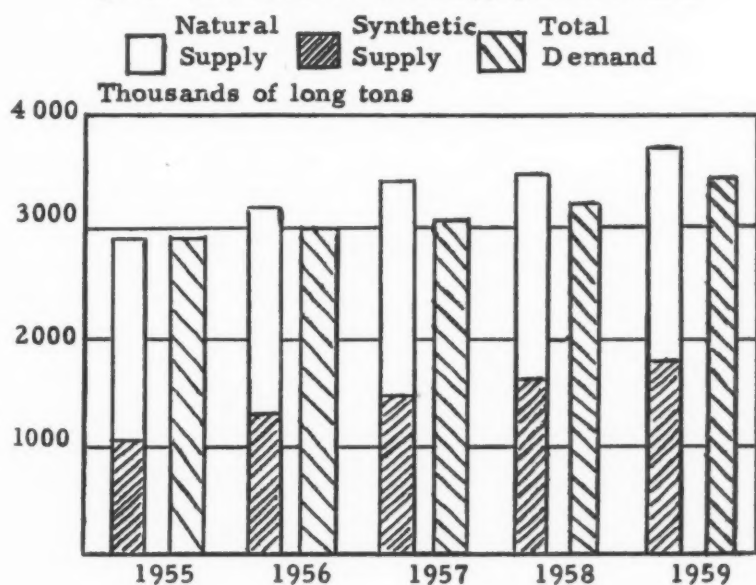
In latex, then, the emulsifier has to meet several important requirements through and beyond the polymerization stage. The production of high solids latex is especially difficult. To obtain large particle size latex, reaction rates must be slow, low initial water and soap level are used, latex stability and heat transfer problems are especially acute and the particle size distribution may affect usability. This subject has been well summarized by L. H. Howland in Whitby's book. (3) Lower quality tall oil soaps of 65-35 rosin-fatty composition and some fatty acid soaps are used in cold latex manufacture. Additional stabilization of the latices by increment soap addition and post-polymerization addition are common.

The same general considerations apply to nitrile rubber production as for GR-S. Nitrile recipes are faster than GR-S recipes at the same temperature by nature of the acrylonitrile monomer. However, product color is usually a much more important consideration for many applications.

Neoprene rubber is made in recipes using lower grade rosin soaps because the monomer is so active in polymerization. Fatty acid soaps do not appear to be used in quantity.

Increased production of GR-S—the supply of synthetic rubber has been forecast to in-

Figure I (15) World Rubber Supply and Demand



crease steadily through 1959. (Figure I (15)) Fatty acids will be in continued use in many of the present products.

2. *Raw material costs*—the competitive production of GR-S synthetic rubber will cause increased emphasis on lower cost. Research and development effort can be expected to increase on ways to utilize the less active and cheaper soaps.
3. *The trend to cold rubber*—in seven years, cold rubber has become about 72% of the total GR-S production (Table III (16)). The trend may continue though perhaps at a slow rate. Effort will be made to take advantage of the potentially faster production rates using fatty acids.
4. *Recent announcements of synthetic cis-polyisoprenes*—their large scale production is still some time in the future. Present GR-S will not be outmoded because of definite advantage of GR-S compared with natural rubber in many products. The applications should compete with natural rubber.
5. *Color problems*—color improve-

ments desirable in many types of synthetic rubber products will force intensive effort to eliminate offending raw materials. Alternate materials and improved materials will be given lots of attention.

6. *Special problems of latex and rubber*—special application and special production problems will continue to occur. Synthetic emulsifiers, cheaper emulsifiers and emulsifiers with special properties, such as the ability to support polymerization on the acid side, will receive increased attention. Because of the limitations of fatty acids, many of the answers will be found outside this field. However, it is expected that the use of fatty acids modified in one way or another, and fatty acids of lower or higher molecular weight may find new usefulness.
7. *Prepared rosin acid-fatty acid soaps*—the use of potassium mixed soaps from suppliers rather than preparation of the mixture in the plant has gained some favor. Presumably, the soap supplier would use specification acids and saponify the cor-

rect mixture. A soap of this kind solves part of the plant mixed soap make-up problem.

8. *Tall oil soap use*—the potassium tall oil soaps could eventually replace current mixed soaps because of the better solubility and fluidity, along with a potential cost advantage. This would have an important bearing on the source of the fatty acids. This change depends on overcoming the product modulus deficiency and verification of product quality.
9. There may be somewhat increased use of fatty acids saponified by the consumer for specialized use. Currently, equipment to do this on a large scale is a limitation but cost savings or special purpose use could justify the installation of needed equipment.

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Table III. (16). GR-S Type Rubber Production

	1st Half 1954	1st Half 1955
	%	%
Hot Rubber		
Latex	6.0	5.2
Rubber	25.2	21.4
Black Rubber	0.5	0.8
Total	31.7%	27.4%
Long Tons	73,767	100,517
Cold Rubber		
Latex	3.9	4.1
Rubber	24.9	31.7
Black Rubber	7.9	5.6
Total	36.7%	41.4%
Cold Rubber—Oil Extended		
Oil Black Rubber	3.6	2.2
Oil Rubber	20.2	21.0
Added Oil	7.8	8.0
Total	31.6%	31.2%
Total Cold Rubber	68.3%	72.6%
Long Tons	159,120	236,549
Grand Total Long Tons	232,837	367,066

Measuring Crude Glycerine Quality

By C. S. Miner, Jr.*

Miner Laboratories

Chicago

ABOUT three years ago the Glycerine Research Committee of the Soap Assn. asked our laboratories to undertake an investigation of crude glycerine with the objective of learning how to detect poor quality crudes by laboratory tests. It has been known for a long time that samples of crude occasionally appear from which it is extraordinarily difficult to obtain a high-quality refined glycerine. If you analyze one of these crudes by the standard method of the American Oil Chemists' Society the results will ordinarily fall within the normal range. When the time comes to refine the crude, however, it may be found that the crude foams when attempting to distill it; or that the distilled glycerine is dark colored and hard to bleach; or perhaps even that the refined glycerine, while apparently satisfactory when freshly distilled, will turn dark or develop a bad odor on storage. Laboratory tests that are commonly applied to crude glycerine will not tell whether or not a particular crude is likely to do these things. So the Research Committee asked us to try to develop laboratory tests that would make it possible to detect those samples of crude that will not yield a high-quality refined glycerine under standard refining practice.

In order to carry out this assignment we obviously had to have a number of samples of both normal and poor crudes with which to work. Fortunately, a number of major refineries and crude producers were

wonderfully cooperative in selecting samples for us. Over a period of many months they kept watch for batches of crude that caused trouble during refining or produced poor quality distillates, or both. As these turned up, samples were taken and sent to us until we had finally gathered a total of eleven samples of crude that refiners considered to be of poor quality on the basis of actual refining experience. In addition, we were supplied with thirteen samples of crude rated as normal, giving us twenty-four samples altogether to use in our studies.

Our laboratory work consisted of subjecting these samples to just about every laboratory test we could think of in the hopes of finding a test or a combination of tests that would detect poor-quality crudes. The main reason this paper is relatively brief is that about 95% of the tests we tried turned out to be of no value whatsoever.

"Poor Crudes" Defined

PERHAPS I better emphasize, at this point, the fact that our definition of a poor-quality crude is strictly limited. For example, certain crudes may give abnormally low yields of refined glycerine when distilled (and naturally the refiner is not happy when this happens), but if the glycerine produced from these crudes is of satisfactory quality even though the amount is lower than it should be, then from the standpoint of our particular assignment these are satisfactory crudes. We have concerned ourselves only with those crudes that will not give

distilled glycerine of satisfactory quality in normal refining operation.

In our search for laboratory procedures that could be used to detect these poor quality crudes, we tried some three dozen different tests, and out of these only four were found to show any significant correlation with the reported quality of the crude samples. I'm not going to try to even list the tests that did not work, but shall stick to those that did show some promise. These tests, outlined very briefly, included:

- 1.) Determine nitrogen content of crude.
- 2.) Distill with steam under vacuum. Observe foaming.
- 3.) Measure color in distillate.
- 4.) Heat distillate at 125° C. for two hours. Measure color.

You will note that in three out of four tests we actually measured directly some of the quality factors that we are concerned with: that is, foaming on distillation, color of the distillate, and color stability of the distillate. Only one of the tests, the determination of the nitrogen content of the crude (which gives an indication of the total amount of organic nitrogen compounds present), is a test that has no obvious connection with the quality factors in the distilled product.

While the correlation between the test results and the quality rating of the crude was reasonably good in all of these four tests, in no case was it perfect. For example, let's look at the results on

*Paper presented during 29th annual meeting, Association American Soap & Glycerine Producers, Inc., New York, Jan. 26, 1956.

foaming during distillation as shown below.

	Normal* Crudes	Poor* Crudes
Foamed	3	8
Did not foam	10	3

*Supplier's rating

Here it should be noted that while the majority of the poor crudes foamed and the majority of the normal crudes did not, there were three exceptions in each case. In the case of the poor crudes this is not too surprising, since we know that crudes will be given a low quality rating for reasons other than foaming on distillation. It is a little harder to understand with the crudes that have been rated normal. The only explanation we can offer at the present time—and this is just a guess—is that in certain types of refinery operation foaming does not constitute a serious problem.

While we're on the subject of foaming, I would like to mention one other observation that we made in the course of our testing program. One of the measurements that we made on all of the samples of crude glycerine was pH, which is a measure of the degree of acidity or alkalinity of a material. In going over our data, we were somewhat surprised to discover that with only one exception all the samples that foamed had a low pH, in other words they were more acid than the samples that did not foam. In Figure 1 the crude samples are arranged in order of increasing pH and the crosshatched bars represent those samples that foamed.

You will note in Figure 1

that all but one of the crudes that foamed had a pH below 9, while none of the nonfoaming crudes was below 9. Incidentally, we made all of the crudes alkaline before distillation, so low pH in itself is apparently not a direct cause of foaming but is rather a symptom of some other condition which causes foaming.

Figure 2 shows the correlation between the color of the laboratory distilled glycerine and the rated quality of the crude. Here the cross-hatched bars represent those crudes that were rated as "poor" by the suppliers. Note that seven out of the eleven poor-quality crudes give distillates that are noticeably darker than the others, but distillates from the other four crudes are no darker than those from a number of the crudes that were rated as normal. It is not surprising that there is an intermediate color range within which we find distillates from both normal crudes and poor crudes.

Figure 3 shows the color of the distillates after they had been heated for 2 hours at 125° C. Unfortunately, we did not recognize the possibilities of this test until near the end of the project, so we were able to collect data on only half of the samples. Although there is no striking correlation here, a point of special interest is that one of the three samples having the highest colors is a sample which the supplier graded as poor, but which we ourselves would have graded as normal on the basis of all the other tests. The results of this color stability

test, however, indicate that the distillate from this sample of crude is unsatisfactory because of poor stability.

In Figure 4 we have shown the relationship between the nitrogen content of the crude and its rated quality. We were especially interested in this test because it is the only one of the four that appear promising that can be carried out directly on the crude itself prior to distillation. Here, again, the correlation is far from perfect, but there is a strong indication that a majority, or at least a substantial percentage, of poor crudes will contain an abnormally high amount of nitrogen.

Figure 5 shows what happens when we take the results of the four tests under discussion. These set what seem to be reasonable limits to classify crudes as normal or poor, and apply these limits to the eleven crudes in our sample set which the suppliers rated as poor. Note that only one of the eleven samples rated as poor passes every test. (Incidentally, one of the samples rated as normal failed the color test and foamed on distillation, and one other normal sample passed all tests except that it foamed when distilled.)

Results Analyzed

IN analyzing these results, it is worth while to remember that the crude samples we worked with were gathered from a half dozen or so different sources, and every sample was rated by the man who supplied

Figure 1

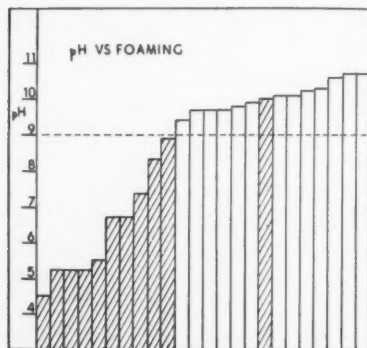


Figure 2

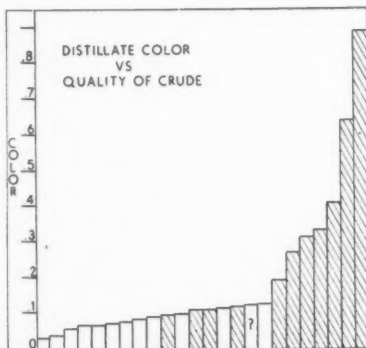
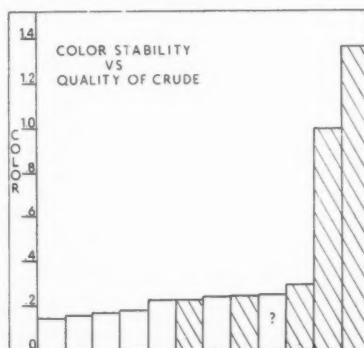


Figure 3



it. Under these circumstances, it would not be too surprising if there were one or two samples in the group that would be rated differently by different suppliers. While we have no way of finding out whether or not this is true, we rather suspect, for example, that sample No. 19 which is shown in Figure 5, passed all of our tests, is a sample that many suppliers would have rated as normal. On the other side of the fence is sample No. 21, which the supplier rated as normal. This is the sample that we marked with a question mark on Figures 2 and 3 because it was so frequently found in bad company. We have a feeling that other suppliers might have rated this one as "poor."

Now, in summing up, we come to the question: How can the crude producer make use of the results we have obtained in this project? I think you will all realize that we have no final answers here. In other words, we cannot set up, as yet, a limit on any of the tests I have described and say with any degree of confidence that a batch of crude glycerine must test below that limit to be considered a normal crude. What we have done, I think, is to pick out from a large number of possible tests those few that have the best chance of furnishing useful information on what quality of refined glycerine may be obtained from a given lot of crude. If a producer of crude is concerned with improving the over-all quality of his product, he could, for example, start to carry out the four tests I have

NUMBER	NITROGEN CONTENT	FOAMING	COLOR	COLOR STABILITY
2	F	F	OK	—
4	OK	F	OK	OK
5	F	F	F	—
9	OK	F	F	—
13	OK	OK	OK	F
18	F	F	F	F
19	OK	OK	OK	OK
23	OK	OK	F	—
25	F	F	F	—
31	F	F	F	—
33	F	F	F	F

Figure 5

described on every batch of crude he makes. Before long, he would have a backlog of data that would tell him within what ranges his normal product would fall. Having established this, it would then become relatively simple to spot an occasional batch of poor crude and take whatever action might be required before the crude went to the refinery.

We are now writing up our data for publication and are trying to present the information in a form that will make it easily available to anyone interested in using it.

This question of glycerine quality has become more important in recent years. I only hope that the work I have been discussing will help the producer make a better product in the future.

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Wrisley Cuts Loss

Although its net sales were lower in 1955 than in the previous year, Allen B. Wrisley Co., Chicago, reported recently that its net loss from operations had dropped sharply last year. The company's net loss for the year, after special charges and credits, showed a considerable reduction, as compared with 1954.

Net sales in 1955 were \$5,634,787, against \$6,119,195 in 1954. The net loss from operations in 1955 amounted to \$95,924, as compared with \$539,869 a year earlier. The company reported a net loss for 1955 of \$192,196, after special charges and credits, which is down from the \$516,008 reported a year earlier. The special charges, the report notes, included expenses of \$165,532 covering direct costs of moving, dismantling and rearrange-

ment of manufacturing operations.

This non-recurring expense, the report states, was used to cover such things as putting a large hole in the roof of the plant and the breaking of a large opening through a wall to remove some of the major equipment. Kettles had to be cut up and removed piecemeal. Instead of being able to salvage the firm's large granulated soap tower—102 feet high—it was necessary to scrap it, plus an additional cost for taking it down—plus the necessity of precision dynamiting to break up its concrete foundation which went 18 feet into the ground.

In the report, Wrisley B. Oleson, president of Wrisley, commented that for the last half of 1955 the company operated at a net profit for the first time since 1951.

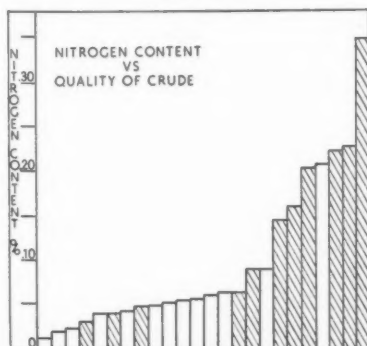
With the resignation of George A. Wrisley, who has been associated with the company for 39 years, as vice-president and a director of the company, the following new officers were elected: vice-president and treasurer, Vernon T. Lemke; vice-president, Max P. Rosenthal; vice-president, James Bolan; secretary, L. Norton Wrisley; plant manager and assistant treasurer, David B. Wrisley, and assistant secretary Harold B. Wrisley. The directors include Messrs. Lemke, Rosenthal, Wrisley B. Oleson, David B. Wrisley, L. Norton Wrisley, and Mrs. Allen B. Wrisley.

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Dow Plans La. Plant

Plans for a new \$20,000,000 manufacturing operation to be located in the Baton Rouge area of Louisiana, were announced recently by Dow Chemical Co., Midland, Mich. The firm has taken options on three tracts of land on the west bank of the Mississippi river and expects to build facilities for the production of chlorine, caustic soda, and several organic chemicals. Dow expects to exercise options on at least one and possibly two of the sites according to Leland I. Doan, president of the firm, who added that the availability of water transportation stimulated the company's interest in the location.

Figure 4





Charles Solly, seated, who took over management of Harley Soap Company in 1923, and his son Robert, who was recently elected president of the firm.

BIG Little Soaper

Short History of the Harley Soap Company, Philadelphia

By Phil Lance

IN order to keep pace with the growing demands for their products, Harley Soap Co., Philadelphia, had to move three times since its inception and keep enlarging at its present location which covers more than 75,000 square feet of area. That they are literally bulging at the seams would be a good way of showing how this firm has expanded.

"One of the main reasons for our growth is the development of new products that are in present day demand," explains president Robert Solly, "and the excellent service that we give our customers. The combination of the two has greatly contributed to the successful operation of our business."

Harley Soap Co. manufactures products that are distributed to sanitary jobbers, automotive jobbers and their outlets and the barber and beauty supply field. While 90% of their products are sold under private label, those customers not specifying private labels, handle these products under the Harco label. In the case of special preparations, such as Harley's liquid hand cleaner and hand lotion combination branded "Creamedic," it is only distributed under that label.

"We are continually experimenting with new products that can be distributed through our regular sources," says Mr. Solly. "In fact,

many of these customers suggest a product that we can manufacture for their use. Sometimes it is something entirely new and other times they may be seeking an improved product. So, by maintaining close contact with our customers, we not only maintain a closer relationship with our customers, but it stimulates our thinking for new products to be developed."

Early History

IN 1923, Charles B. Solly, father of the present company president, took over the management of the Harley Soap Co., which was in the

hands of receivers. His capable management, plus his ingenuity turned this bankrupt firm into a highly successful operation. At the time that the elder Mr. Solly took over the reins of the company, it was manufacturing liquid soap, bar soap and paste for the automotive trade and for private label.

In those early years, the automotive trade was in its infancy. The demand for and distribution of these products was too limited to warrant any type of large scale operation, so the business went on the downgrade.

Solly's first step was to enter

A portion of the building housing the soap manufacturing plant and offices of Harley Soap Co., Pearce and Orthodox Sts., Philadelphia.



into other fields where his products could sell and were needed. Accordingly, he experimented with and manufactured items for the barber and beauty supply trade, such as solid and liquid soap, shampoo and shampoo base, the latter being used by many suppliers to make up their own shampoo formulas.

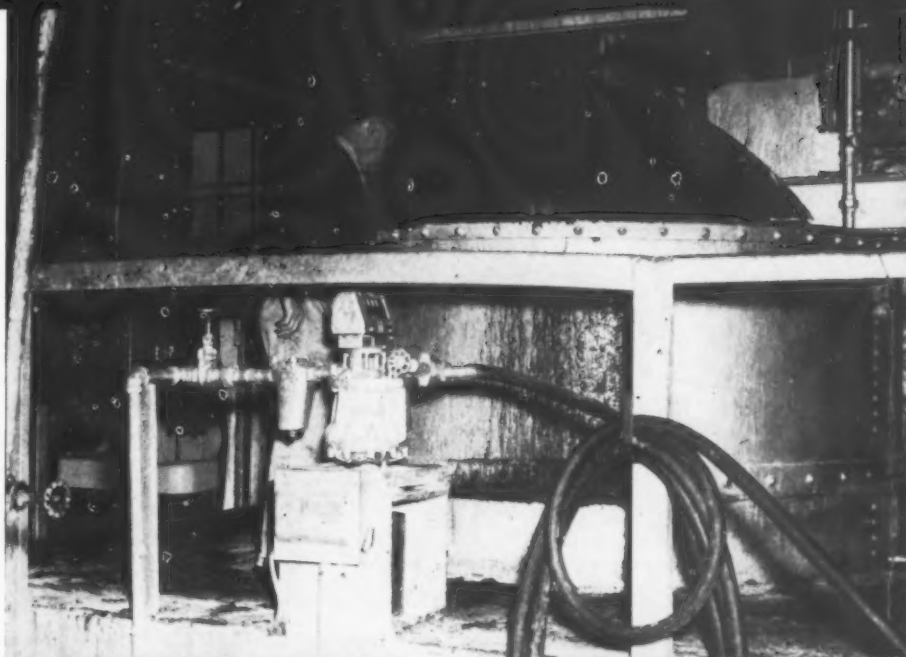
On entering the sanitary supply field, Harley Soap developed a variety of products for distribution by these outlets, such as liquid and paste soaps, floor cleaning compounds, soap and synthetic pine oil disinfectant, floor wax, grease cleaning compounds, odorless disinfectants and carbon removing compound.

"The latest product that we have manufactured is our 'Cream-edic' antiseptic liquid hand cleaner and hand lotion," relates Robert Solly. "It is distributed under our own label because it is being nation-all advertised and featured. This new product contains "G-11" brand hexachlorophene and lanolin and does two jobs at one time. It combines a high quality antiseptic hand cleaner with a cosmetic type of hand lotion and has been found to be an excellent item for dispenser use. Factory personnel enjoy it, as do the professional people. And because of its immediate popularity, we are bottling it and promoting it to the consumer trade."

As a service to its customers, Harley Soap has its own printing facilities so that private brand labels can be printed. These are furnished without charge. The printing equipment was added in 1946 and is not only a customer service, but is also used by Harley for its own labels and other printed matter. It is a great time and money saving operation.

Proof of the fact that the

Soap kettle on second floor of Harley plant (top), from which soap is fed by gravity to main floor. Containers are filled from kettle on main floor (center). Bottom photograph shows filled containers being stocked and waiting for shipment.





Robert Solly, president of Harley, checks an analysis of one of the firm's products being prepared by plant superintendent Robert E. Gundel (right).

Harley Soap Company believes in manufacturing quality products only is the fact that from 25% to 30% of its output goes to various installations of the U. S. Government. All these items have to be prepared in accordance with the high standards of government specifications.

Some of the items manufactured for the government include paint strippers, steam cleaning compounds, paste and liquid soaps and as a base for other products, tincture of green soap. The Air Force, Navy Department and Medical Procurement Agency avail themselves of these products which are also distributed through their regular outlets.

"When we bid on a government contract, we have to submit a sample of the product for test," explains Mr. Solly. "The fact that every sample has topped the standards set by the specifications is a tribute to the line of quality products that we manufacture."

All the manufacturing operations are carried on within the three-story building occupied by Harley Soap. Raw materials, such as fatty acids, caustic soda and pine oils are received in tank cars that are spotted at a railroad siding just across the street from the plant. Underground pipelines bring the raw materials into the plant. Other materials such as cresylic acid, acids and compounds are brought in by tank trucks or in drums by trucks. Raw materials are stored in steel storage tanks.



Plant worker (above) applies stencil to drum of private label line of hand cleaner made by Harley Soap Company.

Harley soap always retains a month's supply of raw materials so

that shipments can be made without interruption. Raw materials are purchased to correspond with anticipated orders, so that the 30 day inventory is always maintained.

To give customers prompt service, the warehouse always has a week's normal supply of products on hand. They maintain a stock of pastes, solid chemicals and liquids in gallon tins, drums and glass jars, whichever container is used. Products are packed in five to 55 gallon drums, gallon bottles and in gallon tins. The containers are purchased from a variety of sources such as Inland Steel, Crown Can, Rein's Tin Can Co., United Steel Barrel, Virginia Barrel and Gaynor Glass.

Products are packed in the containers that are most suitable for the item or enhance its appearance.

Raw materials are stored on the ground floor either in their shipping drums or in the battery of storage tanks, having a storage capacity of 2000 to 10,000 gallons. Mixing is done on the second floor in a battery of six agitating kettles. All water used in the manufacturing process is softened and every liquid passes through a filter. Filling operations are carried out on the main floor where the containers can be readied for shipment.

Another product manufactured by Harley Soap is a two-pound bar of lubricating soap. This
(Turn to Page 163)

Two pound blocks of lubricating soap are cut to size and stacked on planks prior to shipment. Soap is made in 10,000 pound batches, and cooled in frames.



Aerosol Shave Patent Upheld

U. S. Court of Appeals upholds validity of "Rise" aerosol shave cream patent and its infringement

BY a unanimous decision, three judges of the United States Court of Appeals for the fourth circuit, in Baltimore, upheld the validity of the "Rise" aerosol shave cream patent. The decision, handed down March 8th, also affirmed the decree of the U. S. Court of Appeals for the District of Maryland, at Baltimore, which held the patent had been infringed. The Appeals Court further held that the defendant had misappropriated trade secrets and that the ruling awarding damages because of infringement was correct. The question of awarding attorney's fees against Colgate-Palmolive Co., New York, one of the defendants, was likewise upheld by the Appeals Court.

Appealing the decision of the District Court were defendants Colgate, Stalfort Pressure-Pak Corp., John C. Stalfort & Sons, Inc., and Read Drug & Chemical Co., all of Baltimore.

Carter Products, Inc., New York, Joseph G. Spitzer and Marvin Small, plaintiffs in the original action were the appellees.

Colgate announced that it would file a petition with the U. S. Supreme Court for review.

The complete text of the decision of the U. S. Court of Appeals follows:

THIS is an appeal in a case involving patent infringement and appropriation of trade secrets. The patent in suit is United States Patent No. 2,655,480 issued October 13, 1953 to one Spitzer and others relating to a pressurized shaving cream. The plaintiffs in the court below, appellees here, were Spitzer

and his partner Small, holders by assignment from the other patentees, and Carter Products Inc., manufacturer of drugs and cosmetics and the holder of an exclusive license under the patent. The defendants below, appellants here, were the Colgate-Palmolive Company, the manufacturer of a pressurized shaving cream alleged to infringe, the Stalfort Pressure-Pak Corporation and John C. Stalfort & Sons, Inc., who packaged pressurized shaving cream alleged to infringe the patent for the Mennen Company, and the Read Drug & Chemical Company, Inc., which sold the pressurized shaving cream for Colgate and Mennen. Plaintiffs claimed infringement of only eight claims of the patent. Defendants admitted infringement if these claims were valid but denied their validity and asked judgment declaring them as well as all other claims of the patent invalid.

The trial court held the patent valid, and enjoined infringement thereof as well as the use of a trade secret held to have been wrongfully appropriated by Colgate. It also ordered Colgate to assign to plaintiffs rights under patent applications found to have been based upon the trade secret. The case was referred to a special master to determine and report as to damages resulting from infringement and also as to damages and profits for which Colgate should be required to account because of misappropriation of trade secrets and to make recommendations as to whether the damages on account of patent infringement should be increased as allowed by statute, reserving, however, for future determination the question as to whether increased damages should be awarded. Judgment was entered that plaintiffs recover their costs and taxable disbursements to date, including against Colgate reasonable attorney's fees, and the special master was directed to include in his report a recommendation as to the amount of attorney's fees to be allowed. Three principal questions are presented by the appeal: (1) Is the patent valid? (2) Should the findings of the trial court as to misappropriation of trade secrets be sustained? And (3) Is the decree proper?

1. Validity of the Patent

SPITZER, one of the patentees, in the year 1948 conceived the idea of developing a shaving lather which, like the lather produced by machines in barber shops, could be used as it came from the container without being worked up on the face. He employed Foster D. Snell, Inc., consulting chemists, to work out his idea for him in terms of a mixture that could be enclosed in a small container and, upon the opening of a valve, would emerge in the form of a durable lather, which, without whipping up or other agitation, could be used for shaving purposes. Snell put to work on the project two chemists, Reich and Fine, who after several months of work and experimentation developed an emulsion consisting of an aqueous soap solution mixed with certain gases liquefied by pressure, which they enclosed in a container. When the valve of the container was opened the pressure of the gases extruded the emulsion and, as it came from the can, the particles of gas expanded into minute bubbles covered with soap which was the shaving lather desired. Patent, applied for November 2, 1949, was issued to Spitzer, Reich and Fine October 13, 1953. In the meantime an exclusive license had been granted to Carter and the product was being marketed under the trade name of "Rise". It achieved at once outstanding commercial success. Sales of "Rise" in 1950 amounted to \$400,000, in 1951 to \$800,000, in 1952 to \$1,800,000 and in 1953 to \$2,600,000. The sales of Colgate's infringing product in 1954 amounted to \$5,000,000.

There was, of course, nothing novel in the use of soap to make lather, nor in the use of a can as a container, nor in the use of a gas liquefied by pressure and mixed with another liquid to spray the mixture from the can. What was novel was to get a mixture of the right gases, with the right soaps in the right proportions, confined in a container under the right pressure, so that a lather satisfactory for shaving purposes would be produced when the mixture was allowed to emerge. In producing such a mixture many problems were encountered and the record shows

that their solution took many months. The first experiment consisted in mixing a liquid soap then on the market with nitrous oxide gas, the gas used with pressurized whipped cream. This was a failure because the gas was soluble in the aqueous soap solution and the product extruded from the container was not a lather useful for shaving but a mere soapy liquid. An emulsion consisting of the gas propellant Freon-12 (dichlorodifluoromethane) and the soap solution used in barber shop machines would not do because the pressure was too high. Reduction of the vapor pressure by mixing Freon-11 (monofluorotrichloromethane) with Freon-12 produced a smarting, skin-irritating product not suitable for shaving. Reduction of vapor pressure with mineral oil solved the pressure problem but produced problems in connection with the soaps. Finally, after much experimentation, sodium soaps were eliminated and the soap solution adopted was a combination of 80 parts of TEA (triethanolamine) stearate and 20 parts of TEA cocoate, to prevent jelling. The proper propellant was found after much inquiry and experiment by mixing Freon-114 (1, 2 dichlor 1, 1, 2, 2 tetrafluoroethane) with Freon-12. The trial judge summarized the matter as follows:

"Precisely what is this new combination? The individual ingredients of the shaving soap solutions embraced in the Spitzer patent were old in the art. So were the Freons. Also, Freons had previously been used successfully as propellants in aerosols and insecticides. In other words, the combination of some Freons with the Spitzer soap solutions was not new in the art. But the combination of an aqueous soap solution, emulsified in the liquid base with a Freon which had not only low water solubility but which combined the properties of (1) not smarting or burning the face, and (2) good, stable lather, was unknown. There were a number of Freons used in the propellant art which did not smart or burn the face, but they did not afford a good stable lather. Conversely, there were those Freons that were known to give a satisfactory lather but they were disagreeable on the skin. It is this combination of a relatively small group of Freons, that manifest those desirable properties of low water solubility and the optimum characteristics of non-smarting and of lather quality, with aqueous soap solutions that constitutes the invention of Spitzer and his associates. They discovered that all three of these characteristics were inter-related. They found that Freons having a solubility in water not exceeding about 32 cc. of gas to 100 grams of water to be the type of Freons productive of the optimum of the other two qualities desired in the lather composition. This is what the specifications of the Spitzer patent teach, and all 8 of the claims in suit are responsive to this teaching. Claims 6 and 9 are limited to the use of Freon-114. Claims 8 and 10 are limited to the use of Freon-12. Claims 18 and 20, which are based upon

claim 16 as a parent claim, prescribe the use of any one of a group of five Freons, including 12 and 114. Claims 8 (based on claim 2) and 15 embrace the use of a broader group of Freons, but in this group also are only Freons that are essentially non-smarting to the face, and stable in lather forming. In fact, the entire 21 claims of the patent are so limited."

The invention is thus described in the specification:

"In general, the above and other objects of the invention are carried out by employing a composition comprising a water solution of a suitable soap or like detergent and a highly volatile organic liquid, hereinafter generally termed a propellant. At least a substantial proportion of the propellant used in the mixture is insoluble in the soap solution and the two primary ingredients are mixed and maintained under sufficient pressure so that the insoluble portion of the propellant is in liquid phase, existing as droplets or in the form of a liquid-liquid emulsion in the soap solution. The mixed primary ingredients are confined at the vapor pressure of the propellant in a pressure-tight container having an opening controlled by a suitable manually operable valve. When the valve is opened, the pressure on the composition is released as it emerges from the container, with the result that a fine textured creamy lather is produced. The action is apparently such that the volatile propellant liquid, entrapped as an emulsion within the liquid soap solution vaporizes upon the release of pressure therefrom, forming fine gas cells throughout the liquid soap solution and thus forming it into a lather."

Of the claims in suit, claims 2, 6, 10, 16 and 20, may be taken as typical. They are as follows:

"2. A package comprising a pressure-tight container having a valve-controlled opening and containing a composition for use in producing a stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant, said soap solution comprising a solution which is non-gelling at room temperatures and which contains at least about 5% and not substantially exceeding about 30% by weight of soap, a substantial proportion of the soap in said soap solution comprising at least one soap selected from the group consisting of the soaps of potassium, sodium and the water soluble aliphatic amines, said propellant being a halogenated alkane having not more than two carbon atoms and containing at least one fluorine atom, the atomic weight of each substituted halogen atom not exceeding 36, the proportion of propellant being from about 0.2 to about 0.0125 mole per 100 grams of the composition, said propellant having a vapor pressure in the range from about 5 to 300 pounds per square inch gauge at 70 degrees F and having a solubility in water not exceed-

ing about 32 cc. of gas to 100 grams of water at atmospheric pressure and 25 degrees C.

"6. A package according to claim 2, in which a substantial proportion of the soap in the soap solution comprises triethanolamine stearate and the propellant comprises 1, 2 dichlor 1, 1, 2, 2 tetrafluoroethane.

"10. A package according to claim 2, in which the soap in the soap solution comprises at least 30% triethanolamine stearate and the propellant comprises dichlorodifluoromethane.

"16. A package comprising a pressure-tight container having a valve-controlled opening and containing a composition for use in producing a stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant, said soap solution comprising a solution which is non-gelling at room temperatures and which contains from about 5% to about 18% by weight of soap, said propellant comprising at least one compound selected from the group consisting of the substantially water-insoluble fluorinated-chlorinated ethanes and methanes in which all of the hydrogen atoms are replaced by chlorine and fluorine and in which the number of fluorine atoms in the molecule at least equals the number of chlorine atoms, the proportion of propellant being from about .07 to about .025 mole per 100 grams of the composition, said propellant having a vapor pressure in the range of from about 15 to about 65 pounds per square inch gauge at 70° F.

"20. A package according to claim 16 in which the propellant consists of a mixture of dichlorodifluoromethane and 1, 2 dichlor 1, 1, 2, 2 tetrafluoroethane and in which the soap in the soap solution comprises a higher saturated fatty acid triethanolamine soap and includes a lesser proportion of sodium soap."

The defendant Colgate-Palmolive became interested in a pressurized shaving cream when "Rise" came on the market; but although it had 200 or more chemists in its service and although it purchased packages of "Rise" and had them analyzed, the record shows that it was unable to develop a satisfactory product until it had employed Fine, who had been working for Snell in the development of "Rise". He gave Colgate the formula which brought success to its efforts and which embodied the formula of "Rise" in combination with a formula which Colgate had theretofore not found successful. He gave Colgate, also, the benefit of knowledge obtained at Snell's with respect to improving the "Rise" formula by superfatting so as to produce a smoother lather and one which gives the feeling on the skin produced by the so-called brushless shaving creams. Colgate had Fine to file applications for patents covering this improved lather. Notwithstanding this experience and attempts to obtain patents in its own behalf on the subject matter, Colgate argues that

the patent here in suit is lacking in invention and is anticipated by both domestic and foreign patents and by prior use.

The three domestic patents relied on as anticipations were all considered by the Patent Office before granting the patent. They are Rotheim No. 1,892,750 of 1937, Getz No. 2,294,172 of 1948 and Boe No. 2,524,590 of 1950. We agree with the trial judge that none of these anticipates and that taken together they do not negative invention in the patent in suit. Rotheim relates to a method of atomizing materials of a liquid or semi-liquid consistency. Liquid soap is given as one of the materials that may be atomized. No Freons are listed as propellants. Getz is a patent for aerating food products such as whipped cream, where a solution and not an emulsion is what is desired. Its only possible relevancy is that it lists among the propellants Freon-12, which has long been used as a propellant of insecticides. Boe relates to spraying. While it lists Freons, among other gases, as propellants and suggests that the gases listed may be mixed to arrive at a desirable vapor pressure, it does not specify which gases. It does not suggest the creation of a lather, but points out how foaming may be prevented.

Foreign patents relied on by defendants were the Belgian Patent to Estignard-Bluard of 1949 and Argentine and Panama patents to Daggett & Ramsdell of 1946. These patents were excluded on legal grounds by the trial court, the Belgian patent on the ground that although the patent was granted by decree prior to the conception date of the invention involved in the patent in suit, it was not opened to the public until after that date, the Argentine and Panama patents on the ground that only the claims of the patent could be considered and these were irrelevant. Assuming without deciding that there was error in the exclusion of these patents, the position of defendants is not helped, since neither of these teaches how to produce the pressurized shaving cream of the patent in suit. The Belgian patent relates to the formation of pressurized gaseous emulsions and lists a large number of gaseous propellants, but not including Freon-114, with all sorts of liquids to be used therewith including soaps as emulsifying agents only. It suggests the problem of developing a pressurized shaving cream but does not teach which of the propellants should be used for that purpose or with what combination of soaps they should be used. The Argentine and Panama patents relate to spraying cosmetics and, while formulas for shaving creams are included among the cosmetics to be sprayed, none of these formulas would aid in solving the problem which was solved by the patent in suit. They merely list "propellants" without indicating what mixture of propellants is to be used with what mixture of soaps.

Defendants rely upon prior use by Gebauer and Segelken. Gebauer devel-

oped a shampoo which jelled and which used Freon-11 as a propellant. It manifestly did not anticipate nor suggest the pressurized shaving cream of the patent. Segelken was the chemist employed by Daggett-Ramsdell upon whose experiments the Argentine and Panama patents were obtained. While he testifies that in the course of his experiments he produced a satisfactory pressurized shaving cream, it is not shown that he used the combination either of propellants or soaps prescribed by the patent or that he eliminated objectionable matters eliminated by that combination or achieved the results obtained by it. The evidence relied upon falls far short of the sort of evidence necessary to invalidate a patent by oral evidence or prior use. See the *Barbed Wire Patent* 143 U. S. 275 284; *Adamson v. Gilliland* 242 U. S. 350; *Hoeltke v. C. M. Kemp Mfg. Co.* 4 Cir. 80 F. 2d 912, 923.

The real question as to the validity of the patent is not one of anticipation or of prior use but of invention. The question is whether the product of the patent is mere aggregation, in which old elements accomplish independently what they did in the prior art, or whether there is a true combination in which old elements have been combined to produce a new and useful result. We think that the latter is the case. What we have is not the mere use of propellant gases to extrude shaving soap from a container. But the use of particular propellant gases liquefied under pressure and combined in such way with particular aqueous soap solutions as to produce an emulsion, which, when released from the container, becomes a lather composed of tiny gas bubbles coated with soap and useful for shaving—a product which was new and useful, which the expert chemists of Colgate had tried unsuccessfully to produce, and which achieved at once unqualified commercial success.

A sufficient answer to the argument that nothing more is involved than the skill of the art is that the patentees experimented for months in the effort to produce the pressurized shaving cream of the patent before their efforts finally resulted in success, that Colgate's efforts to produce it proved unsuccessful and that, after it had been produced and Colgate had purchased it on the market and had it analyzed, Colgate's corps of expert chemists were still not able to produce it until the knowledge of one of the patentees was availed of. As said by Mr. Justice McKenna in the *Grant Tire* case, *Consolidated Rubber Co. v. Consolidated Tire Co.* 220 U. S. 428, 435, "Knowledge after the event is always easy, and problems once solved present no difficulties, indeed, may be represented as never having had any, and expert witnesses may be brought forward to show that the new thing which seemed to have eluded the search of the world was always ready at hand and easy to be seen by a merely skillful attention. But the law has other tests of the invention than subtle conjectures of what might have been seen and yet was

not. It regards a change as evidence of novelty, the acceptance and utility of change as a further evidence, even as demonstration."

That the product of the patent is a true combination and not a mere aggregation clearly follows from the application of the principles approved and applied by this court in the *Canned Heat Patent* case, which is very much in point here. *United States Industrial Chemical Co. v. Therox Co.* 4 Cir. 25 F. 2d 387. In that case we quoted with approval the following passage from 20 R. C. L. 1125-1126, which we understand to be a correct statement of the principles of law here applicable, viz.:

"A combination is a composition of elements, some of which may be old and others new, or all old or all new. It is, however, the combination that is the invention, and is as much a unit in contemplation of law as a single or non-composite instrument. The authorities establish the following propositions respecting the patentability of devices or processes of this character: (1) That a combination is patentable if it produces new and useful results, though all its constituents were well known and in common use before it was made, provided the results are a product of the combination, and not a mere aggregate of several results, each the product of one of the combined elements. (2) If it produces a different force, effect, or result in the combined forces or processes from that given by their separate parts, and a new result is given by their union. (3) If it either forms a new machine of distinct character or formation, or produces a result which is not the mere aggregate of separate contributions, but is due to the joint and cooperating action of all the elements. (4) When the several elements of which it is composed produce by their joint action either a new and useful result, or an old result in a cheaper or otherwise more advantageous way."

The patentability of "Rise" is supported by every criterion here laid down. First it produces a new and useful result, and this result is a product of the combination, and not the mere aggregate of several results; second, it produces a different result in the combined forces or processes from that given by their separate parts, and a new result is given by their union; third, it produces a result which is not the mere aggregate of separate contributions, but is due to the joint and cooperating action of all the elements; and, fourth, the several elements of which the product is composed produce by their joint action a new and useful result.

The case presented is thus fundamentally different from *Mandel Bros. v. Wallace* 335 U. S. 291, where all that was done was to use a drug with a cosmetic preparation to accomplish a purpose for which its availability had long been known and recognized. What we have here is a new and useful composition of matter produced after lengthy experimentation, in which the various

(Turn to Page 166)



Panel members and members of the symposium committee who participated in the second annual symposium sponsored by the American Society of Perfumers. Seated left to right: Everett D. Kilmer, Lever Brothers Co., Edgewater, N. J., committee chairman; Pierre Bouillette, Givaudan-Delawanna, Inc.; Mrs. Miriam Gibson French, McCall's magazine; Christian F. Wight, van Ameringen-Haebler, Inc.; Miss Eleanor K. Coen, Lever Brothers Co., all New York; Dr. Marvin Stein, University of Pennsylvania Hospital, Philadelphia, and Gustav Carsch,

Toni Co., Chicago. Standing, l. to r.: Jack Mohr, Lenthéric Division, Olin Mathieson Chemical Corp.; Dr. Donald H. Powers, Warner-Lambert Pharmaceutical Co., all New York; Dr. Dean Foster, U. S. Testing Co., Hoboken, N. J.; John R. Carr, Revlon Products Corp.; Frazer V. Sinclair, publisher of Beauty Fashion and Drug & Cosmetic Industry magazines, all of New York; Irving Gilman, Institute for Motivational Research, Croton-on-Hudson, N. Y., and Jean Millon, Coty, Inc., New York.

Perfumers Study Marketing

THE application of modern pre-marketing and test marketing techniques in evaluating perfuming materials in soaps, detergents, toiletries, cosmetics and perfumes was discussed by a 12-member panel at the second annual symposium of the American Society of Perfumers. More than 300 persons attended the meeting, which was held the afternoon of March 21, at the Essex House Hotel, New York. A buffet supper followed the afternoon discussion.

Moderator for the symposium was Frazer V. Sinclair, publisher of *Drug and Cosmetic Industry* and *Beauty Fashion* magazines. Mr. Sinclair is also an honorary member of the American Society of Perfumers. He was introduced by Christian F. Wight of van Ameringen Haebler, Inc., New York, who presided. The symposium committee was composed of Pierre L. Bouillette, Givaudan-Delawanna, Inc., New York; Andrew B. Farago, Zanadu Manufacturing Corp., New

York; Dr. Oliver L. Marton, Shulton, Inc., Clifton, N. J.; Mr. Wight, and Everett D. Kilmer of Lever Brothers Co., Edgewater, N. J., who was committee chairman.

A highlight of the meeting was the presentation of an honorary membership in the Society to William A. Poucher, world renowned perfumer, for many years chief perfumer of Yardley of London, Ltd., and author of the standard reference work, "Perfumes, Cosmetics & Soaps".

In his introductory remarks, Mr. Wight pointed out that the Society is nine years old and has 121 members. The American Society of Perfumers is "more than just a private club of perfumers", Mr. Wight said. "It is now the voice of the technical and research people in the perfuming materials field," he stated.

Everett Kilmer of Lever Brothers Co., chairman of the symposium committee, said the purpose of the symposium was to bring to

people concerned with fragrance some of the tools and some conceptions of market research from other fields."

"The Society is rendering a service in bringing controversial subjects out into the open for objective evaluation", Mr. Sinclair declared.

The first panel member, Pierre Bouillette of Givaudan Delawanna, Inc., stated that professional perfumers are much concerned with the evaluation of their creations. Mr. Bouillette briefly traced the history of perfuming from the beginning of the twentieth century. He said that "originality in perfuming will only be appreciated by an open-minded elite and spreads by osmosis to other segments of society." Mr. Bouillette also pointed out that each perfumer has his own panel of critics to make constructive evaluations. The object of the symposium, Mr. Bouillette said is to stimulate constructive thinking in the evaluation of perfumes.

"What Fragrance Means to Women" was discussed by Mrs. Miriam Gibson French, beauty editor of *McCalls Magazine*. Although the basic motivations of women remain constant, Mrs. French said, she pointed out that the "brutally frank appeal to sex in perfume is wrong." Changing habits in the age at which women marry (younger), the increased size of families and the trend to more suburban and less formal living all affect buying habits, she said. Surveys conducted by her magazine dealing with perfume preferences by age and income groups were described by Mrs. French. She concluded that one basic motivation of women is that they want to feel attractive in order to be attractive to others.

Replacing Pierre Harang of Houbigant, Inc., New York, on the panel was Jack Mohr of Lenthier division of Olin Mathieson Chemical Corp., New York. Mr. Mohr's subject was "Perfume, the Big Gamble". He said that he didn't think that perfume was a larger gamble than any other product catering to the taste of the nation. "This business is not particularly hazardous, but is fraught with responsibility", he said. Some of the finest perfumes created have died aborning, Mr. Mohr said. He pointed out that there is no magic formula in the success of a fragrance—only the application of marketing techniques that are sound. It is important to break down what has happened after a perfume has been created. Only a few of the hundreds created survive, and the reason he assigned is that there is no "day-to-day nourishment at the marketing level."

The toiletries and cosmetic industry is "the only one in which a competitor can put you out of business with an inferior product", Dr. Donald H. Powers, director of cosmetic research of Warner-Lambert Pharmaceutical Co., New York, told the audience. "Promotion can sell more than performance", he declared. Speaking on the "Use of the Nonexpert Panel for Testing Cos-

metic Fragrance", Dr. Powers said his firm got fairly good results with nonexperts. In testing shampoos, he said his firm found that consumer panels favored performance above all else. He added that with two shampoo or hair care products, identical in every respect except fragrance, the one with the better fragrance usually was preferred. This does not apply to all cosmetic products, he said, adding that "sometimes a good fragrance in such a product has no effect or a detrimental effect."

Fragrance products are the most difficult of all to measure, Dr. Dean Foster, director of laboratories of U. S. Testing Co., Hoboken, N. J., declared. Measurement of such products still requires more scientific methodology, celebration and development on the part of the tester, he stated. His company is working intensively on the problem of odor evaluation and is trying to find out how persons react to a specific perfume; trying to see why certain odors succeed and others fail. The work has been extremely successful with specifics, Dr. Foster said, but so far it has been impossible to discover any basic principles in perfume evaluation.

"Fine fragrances, even though they have prestige, are no different from any other product in

William A. Poucher, world famous perfumer, receives honorary membership in the Society of American Perfumers from Christian F. Wight of van Ameringen-Haebler, Inc., New York.



that they have to satisfy the needs or desires of the consumer," John R. Carr, product manager of Revlon Products Corp., New York, said. His subject was "A Case History in Fragrance Testing and Evaluation." An important factor in the choice of a perfume for a new product is what its character should be and why. This is to guide the perfumer. The first step in the selection of a fragrance is the study of fragrance vogues in the U. S. Similarities must be studied. Whether or not European trends can be adapted in the U. S. must also be determined. The influence of the western way of living, with emphasis on ranch houses and more out of doors living, a trend which is moving east, should also be considered. In perfume trends this is reflected in the more widespread use of light florals rather than the heavier, oriental type fragrances.

After testing, samples of several perfuming materials are submitted to Revlon. The firm then confers with its own perfumers, suggested changes are made, and the product is ready for consumer tests. Revlon uses a consumer panel set up in metropolitan New York, New Jersey and Long Island. It is most important to chart the income level of the panel. The panel is then mailed a questionnaire and two test fragrances. The panel is instructed to try these for one week and then fill in the questionnaire. In this case 87 percent of the panel returned the questionnaire and both products were rated good, meeting a high degree of acceptance. However, one fragrance preference was indicated. Eventually the product was marketed and received a high degree of acceptance without advertising. It is now ready to be marketed with heavy promotion. The painstaking evaluation of the fragrance was felt to be the reason for the product's success.

The "Role of Olfaction in Personality" was discussed by Dr. Marvin Stein, M.D. of the hospital of the University of Pennsylvania. Psychiatrists are well aware of the
(Turn to Page 163)

Toilet Goods Assn. Meets May 15-17

A SESSION devoted to the executive problems arising out of packaging and production is an innovation on this year's program of the annual convention of the Toilet Goods Association to be held May 15-17 at the Waldorf-Astoria Hotel, New York. In the past only big companies have been able to utilize fully the revolutionary changes in this area of manufacture, according to T.G.A. Under the direction of Ed Love, production manager of Bristol-Myers Co., New York, this session is designed to minimize the small company's disadvantage. Importance of packaging design to sales and the reduction of costs through automatic and semi-automatic equipment will be studied and the latest developments in plastic and other packaging materials will be presented.

Main theme of the convention, as announced by Robert E. Schwartz, executive vice-president of Wildroot Co., Buffalo, N. Y., chairman of the T.G.A. convention program committee, will be how the industry can secure a larger share of the consumer's dollar.

Albert E. Ritchie, vice-president in charge of sales for Wildroot Co., will direct a session covering management and selling problems. Having secured the co-operation of the National Sales Executives of America, Mr. Ritchie says the idea behind the session is "to find out how the stars do it."

Application of automation to small business and a discussion of profitable markets still untapped by larger companies are other subjects scheduled for this session.

John H. Breck, Jr., executive vice-president of John H. Breck, Inc., Springfield, Mass., will direct the session on advertising. With medium size firms like his own in mind, Mr. Breck will design the session to help the smaller manufacturer. "How to get into television without excessive costs," "How radio can be a better buy

than before," "Why in the T.V. age, magazines and newspapers are more important than ever," are among subjects slated for study.

The final day of the convention will be devoted as usual to a meeting of the scientific section under the direction of Dan Dahle, chairman.

Preceding the convention, on May 14, the annual toilet goods industry golf tournament will be held at Winged Foot Golf Club, Mamaroneck, N. Y. Chairman of the tournament committee Paul E. Forsman of C. H. Forsman Co., New York, has announced his committee as follows: Sydney A. Finer, Chesebrough-Pond's, Inc.; John E. Gabrielsen, Avon Products, Inc.; Philip J. Heinle, John Robert Powers Products, Inc., and James H. R. Stephenson, Albert Verley Co.

TGA Scientific Program

The program of the Scientific Section of the Toilet Goods Assn., which meets May 17, the final day of the annual three-day meeting of T.G.A., May 15, 16 and 17 at the Waldorf-Astoria Hotel, New York, was announced in March. Highlights of the scientific papers include: "Problems in Dispensing Powders from Pressurized Containers," by Victor Di Giacomo, Givaudan-Delawanna, Inc., New

Robert E. Schwartz

Convention committee chairman



York; "Shampoos — A Practical Method of Evaluation," by W. G. Fredell and R. R. Read, Lambert-Hudnut Division of Warner Lambert Pharmaceutical Co., New York, and "The Chemistry of Lauric Acid — Diethanolamine Condensation Products," by Harry Kroll, Geigy Chemical Corp., New York.

Other papers to be presented at the all-day meeting of the Scientific Section include:

"Axillary Perspiration — Odors and Deodorization," by W. G. Fredell and R. R. Reed, Lambert-Hudnut Division of Warner-Lambert Pharmaceutical Co., New York; "The Sphere of Research," by Paul G. Lauffer, George W. Luft Co., Long Island City, N. Y.; "The Physicochemical Characterization of Essential Oil Constituents and Their Derivatives by Modern Instrumentation Techniques," by Leo Levi and James L. Thomson, Food and Drug Laboratories, Department of National Health and Welfare, Ottawa, Canada, and James C. Evans and Harold Bernstein, Pure Chemistry Division, National Research Council, Ottawa, Canada; "Toxicity Studies on Monethanolamine Thioglycolate Cold Waving Lotions," by Ross Whitman and Martin G. Brookins, Rayette, Inc., St. Paul, Minn., and "Azulene and Its Derivatives," by Drs. H. K. Thomas and H. G. Gribou, research department of Dragoco, Holzminden, Germany.

Dow Man Abroad

J. C. H. Stearns, executive vice-president of Dow Chemical International, Ltd., an export subsidiary of Dow Chemical Co., Midland, Mich., left New York Mar. 14 on board the *Queen Elizabeth* for a six week business trip to Western Europe to investigate business and economic conditions in several countries. He is visiting Dow Chemical International offices at Zurich, Switzerland, and the headquarters of Dow Maatschaapji N.V. in Rotterdam, The Netherlands, as well as Dow sales representatives in England, France, Holland, Germany, Switzerland and Italy to discuss future plans for Dow export activities abroad. The Rotterdam company is also a Dow export subsidiary.

Mr. Stearns leaves Southampton Apr. 26 on the *Queen Elizabeth*, arriving in New York, May 1.

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Nacconol FSNO
Nacconol NRSF
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BEAD

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Nacconol MX Unimesh

POWDER

Nacconol SW

Nacconol[®]

*the pioneer detergent
in a physical form
to fit your every need*

Of special interest to the trade is the new "superdense" bead form of Nacconol—Nacconol DBX.

This 40% active spray-dried alkylaryl sulfonate answers the industry's need for a versatile bead form as dense as most flake materials.

Samples of this new form or any other Nacconol listed will be promptly sent on request.

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Atlanta, Ga., 1216 Spring St., N.W. Elgin 6300
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Tampa 2, Fla., 127-145 Wallington St. W. Empire 9-6655



BUBBLE BATHS



DISHWASHING COMPOUNDS



DAIRY CLEANERS



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RUG, UPHOLSTERY CLEANERS



GENERAL MAINTENANCE
CLEANERS

All these can be Made Better with



Whatever powdered products you formulate—from bubble baths to rug cleaners—your best bet is Orvus AB Granules!

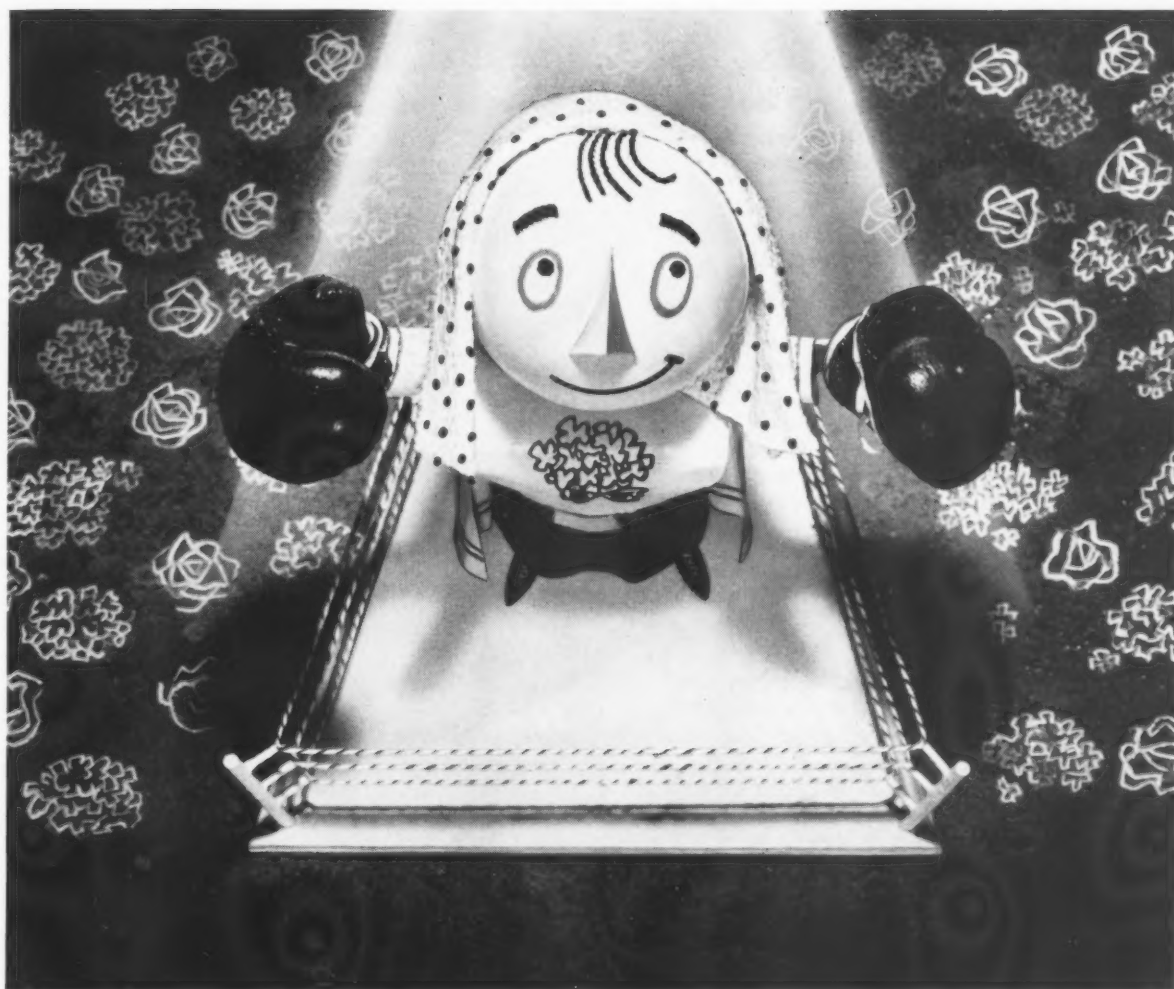
You'll get far smoother formulations because Orvus AB flows freely . . . always blends intimately with other ingredients. What's more, granule breakdown, dustiness, stratification, sifting or settling out during mixing are kept to a minimum because of the unusual granule characteristics of Orvus AB.

And when it comes to effective performance, you can't beat Orvus AB for exceptional detergent, sudsing, wetting, dispersing and emulsifying properties. A 40% active alkyl aryl sulfonate, Orvus AB offers many other important advantages you'll discover when you use this fine synthetic detergent. For more information on specific applications or formulas, drop a postcard to . . .

Procter & Gamble

Bulk Soap Sales Department,
P. O. Box 599, Cincinnati 1, Ohio

America's largest manufacturers of top-quality soaps and synthetic detergents



Introducing Rogepel... the new rose geranium champ!

New Dow synthetic specialty

beats natural oil on three counts—

aroma power, stability and price!

The championship has changed hands. The new Dow synthetic specialty, ROGEPEL*, replaces the natural Rose Geranium oils—and producers of soaps, detergents, shampoos and cosmetic fragrances will give the new champ a standing ovation!

More aroma power . . . greater stability . . . lower price. These are the main advantages of ROGEPEL. There are still others: consistent high quality and prompt delivery. To sum it all up, ROGEPEL gives you a more effective product at a much lower price. What better reason than that for trying this outstanding new product!

A sample is yours for the asking. Write on your letterhead to THE DOW CHEMICAL COMPANY, Midland, Michigan, Dept. AR 866C.

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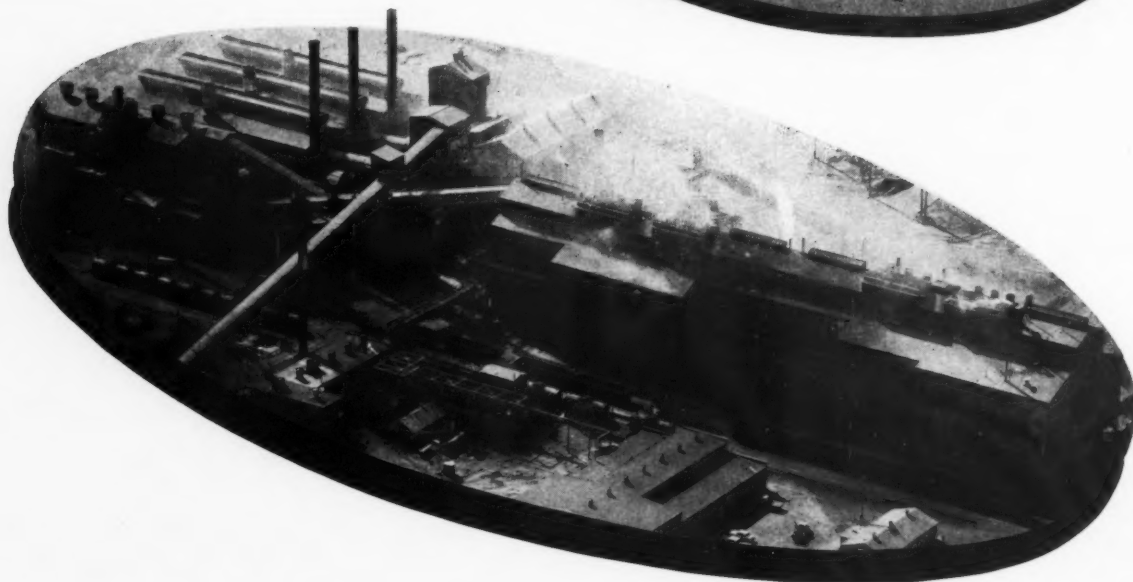
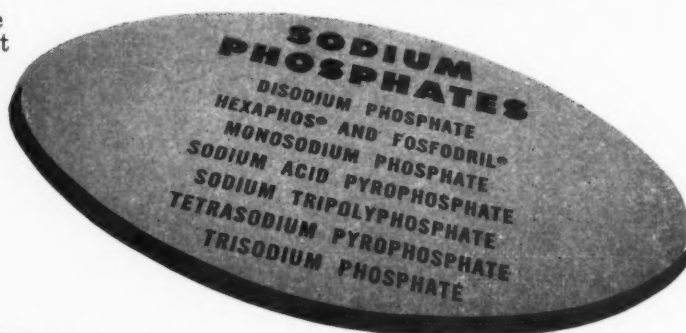
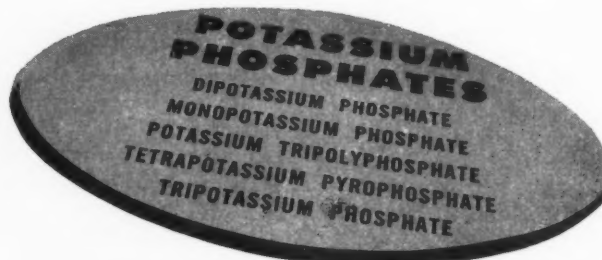
Dependable Coast-to-Coast Service from the nation's oldest fully-integrated phosphate producer

No Johnny-come-lately, Westvaco has been producing sodium phosphates for over 50 years... has long been the leading producer of potassium phosphates for rubber, electroplating, rust inhibitors, stabilizing agents, soaps, shampoos and synthetic detergents.

Westvaco was first to develop Western elemental phosphorus production with four giant furnaces at Pocatello, Idaho now having an output of over 100,000,000 pounds per year.

Westvaco pioneered Tetrasodium Pyrophosphate and Sodium Tripolyphosphate... was first to establish a coast-to-coast major network of phosphate plants under integrated management.

On every score, Westvaco has a long record of leadership in sodium and potassium phosphates... is a completely dependable source of supply for all the phosphates listed here.



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FMC CHEMICALS INCLUDE: BECCO Peroxygen Chemicals • WESTVACO Alkalies, Chlorinated Chemicals and Carbon Bisulfide • NIAGARA Insecticides, Fungicides and Industrial Sulphur • OHIO-APEX Plasticizers and Chemicals • FAIRFIELD Pesticide Compounds and Organic Chemicals • WESTVACO Phosphates, Barium and Magnesium Chemicals

News

Beach Soap Sales Meeting

The annual sales meeting for executives, sales personnel and the engineering staff of Beach Soap Co., Lawrence, Mass., was held Mar. 1 at the Sheraton Plaza Hotel, Boston. A new professional laundry product, "Hycon" dry bleach, was introduced at the meeting. Also announced was reformulated "Prime Sohph, which now contains a new stain solvent and an optical brightening agent.

"Hycon," a new addition to the Beach line, is a dry chlorine bleaching compound designed for use by professional laundries. It is highly concentrated, small amounts producing desired results, while preserving fabric strength. The maker also says it is stable in storage so that prescribed amounts provide uniform results. "Hycon" is said to dissolve quickly and completely, leaving no undissolved particles. The product contains enough phosphates to dissolve residual lime soap

film which obstructs bleaching action on removable stains, according to the maker. The phosphates also keep wash wheels clean and prevent lime soap contamination, Beach says.

Reformulated "Prime Sohph" is a homogenized built soap containing a new stain solvent and whitening agent which is effective on synthetic as well as natural fibres.

— ★ —

Colgate Advances Avery

Frederick M. Avery was appointed recently as premium buyer of Colgate-Palmolive Co., Jersey City, N. J. He formerly was associated with Colgate's premium department which operated the Octagon Premium Plan, said to be the world's largest cooperative coupon-redeeming program. Recently Colgate and three other firms set up Premium Associates, Inc., an independent firm, to handle the Octagon Premium Plan.

White King Soap Changes

Emmett R. Folck, formerly San Francisco division sales manager for White King Soap Co., Los Angeles, has been advanced to the post of assistant general sales manager and has been transferred to the home office in Los Angeles, it was announced recently.

Murray Hall, formerly on the sales staff of the company in Seattle, has succeeded Mr. Folck as sales manager in San Francisco.

— ★ —

Purex Advt. Changes

Jack Northrup was recently named brand manager to direct the advertising for Purex bleaches and for all Purex brands of Purex Corp., South Gate, Calif. Another shift in the reorganization of the Purex advertising department involves Leslie C. Bruce, Jr., who has been made advertising brand manager for "Trend," "News" and "Old Dutch Cleanser."

Attending recent sales meeting of Beach Soap Co., Lawrence, Mass., in Boston, March 1, were: front row, sitting, l. to r.: W. E. Wyatt; E. C. Regan; Lloyd T. Howells, vice-president in charge of sales; K. E. Fulton, president; Gordon B. Fulton, retiring president, who now becomes chairman of the board

of directors; C. C. Miller, and J. L. Drury. Standing, l. to r.: L. K. Wolff, M. Basinow, J. G. Bottoms, C. F. Mudgett, H. A. Caruso, S. Citrin, J. H. Schulthess, E. R. Haag, C. E. Brinn, E. M. Kern, E. A. Jones, W. A. Conrars, T. B. Howley and J. B. Dailey.



Suds, Shines and SELLS

The growing preference for liquid detergent formulations is showing up in the sales picture... last year there was a phenomenal industry-wide increase in these sales.

And no wonder... liquid detergent formulations offer real economy; instant solubility in any water; a pleasing fragrance; sneeze-free washing; dishes that dry shining bright; no sink scum to scrub away.

Many of today's best-selling liquid detergents are formulated with Atlantic ULTRAWETS. Economy is one reason. High performance characteristics allow a saving on the quantity needed to maintain product efficiency. Add to this saving a further one: you can buy the ULTRAWETS at significantly low prices in tank car or bulk lots.

Ask us for detailed information on the ULTRAWETS. Our Chemical Products Sales Division can supply formulations, or help you develop your own. Write, wire, phone or send the coupon today.

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In the West: L. H. Butcher Co.

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of Dominion Rubber Company, Ltd.

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Please send me information on the ULTRAWETS for
liquid detergent formulations.

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Firm _____
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The ULTRAWETS wet, penetrate,
clean and emulsify



K. E. Fulton Heads Beach

K. E. Fulton, executive vice-president of Beach Soap Co., Lawrence, Mass., was elected president of the company at a meeting of the board of directors Mar. 6. In his new post he succeeds his father, Gordon R. Fulton, who becomes chairman of the board.

The new Beach president has spent his entire working life in the soap business with the exception of the time he spent serving in the U. S. Air Force.

Mr. Beach is a graduate of Dartmouth College and the Ames Tuck School of Business Administration. Later, when he joined Beach Soap Co. he worked in the factory, laboratory and office. Following this he engaged in the sales end of the business, working on the road as a salesman, eventually becoming sales manager and subsequently executive vice-president.

On Lever Board

Three vice-presidents of Lever Brothers Co., New York, have been elected to the board of directors it was announced March 22. The three new directors are W. N. Burding, John P. Moser and Henry Schaate.

Mr. Burding is marketing vice-president of the Lever division, which markets the company's household soaps, detergents and shortening. He joined Lever Brothers in 1949 as head of its Good Luck Division, a position he held until

1953 when he assumed his present post.

Mr. Moser is production vice-president and is responsible for the operation of the manufacturing, distribution, purchasing and industrial divisions. He has been with Lever since 1925 when he joined the firm as a research chemist at the company's Cambridge plant. Mr. Moser has held administrative positions in many phases of the company's operations, and in 1949 was appointed general manager of the manufacturing division. He became production vice-president three years ago.

Mr. Schachte joined Lever a year ago as advertising vice-president. He is responsible for the promotion and advertising services, marketing research and public relations divisions, and works directly with the marketing divisions in connection with their advertising and marketing activities.

Guenther Speaks in Chi.

Ernest Guenther, vice-president and technical director of Fritzsche Brothers Inc., New York, was the guest speaker at the March 13 meeting held by the Chicago Chapter of the Society of Cosmetic Chemists. Dr. Guenther's talk on volatile oils was supported by color films taken by the speaker in Europe and Africa. He showed his films and lectured on March 12 before the Chicago Section of the Institute of Food Technologists.

Mt. Hood Office Moves

Mount Hood Soap Co., Portland, Oreg., announced recently that it has moved its Seattle sales office to new and larger quarters at 1000 4th Avenue, South, Seattle 4. The telephone number, Main 1826, remains unchanged. Bruce Senders is in charge of the Seattle office of Mt. Hood. Other members of the staff include Miss Clare Gebaroff, Tom Marr and Miss Yvonne Sorenson. Mt. Hood's former Seattle office was located at 1529 Ninth Ave. The company makes and sells household and industrial soaps, chemicals, alkalis and laundry supplies.

Hooker Stock Plan

Stockholders of Hooker Electrochemical Co., Niagara Falls, N. Y., on Mar. 13 voted to establish a voluntary stock purchase plan for employees and for a stock option plan for officers and key employees. In general the stock purchase plan permits the purchase of company stock at 85 percent of the last reported sale price on the date of offering.

The plan is available to all full-time employees of one or more years' service with Hooker and its majority-owned subsidiaries, except those who participate in the stock option plan. The employee is permitted to purchase, by payroll deduction in installments if desired, a maximum of five shares and a minimum of one share for each \$260 of his base earnings.

W. N. Burding



John P. Moser



Henry Schaate



SHULTON

MUSKS



There are no finer... Shulton nitro musks are rigidly controlled throughout manufacture to assure absolutely constant odor quality. Whether your application is for ambrette, ketone, or xylol, Shulton's years of experience in nitro musk manufacture can provide you with the very finest grade, for exacting perfumery requirements, or with technical grade, wherever this economy is feasible. And, remember, you can rely on their availability, for Shulton nitro musks are domestically made.

Technical data, samples, and additional information, on request.

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FINE CHEMICALS DIVISION
SHULTON, INC.
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NEW YORK

Colgate Record Sales

Record world-wide sales of \$468,578,000 in 1955 were reported by Colgate-Palmolive Co., New York, in mid-March. Sales in the preceding year were \$424,349,000. Domestic sales in 1955 amounted to \$285,377,000, and foreign sales were \$183,001,000. In the previous year sales in these two categories totaled \$261,848,000 and \$162,501,000, respectively.

Net income last year, derived from both domestic and foreign operations, amounted to \$14,008,000, or \$5.00 a share on an average of 2,466,000 common shares outstanding. In 1954 Colgate earned \$12,503,000 or \$4.96 a share on an average of 2,434,000 shares outstanding.

Domestic operations accounted for \$9,260,000 or \$3.64 a share of the 1955 earnings, against \$8,032,000 or \$3.19 a share in 1954. Foreign dividends amounted to \$4,748,000 or \$1.86 a share last year, compared with \$4,471,000 or \$1.77 a share in 1954.

In making the report, E. H. Little, chairman of the board, noted that the regular quarterly dividend rate on the common stock was increased from \$2.00 to \$2.50 a share on an annual basis in 1955. A year-end extra dividend of 50 cents a share was paid in both years. The regular dividend rate has been further increased to \$3.00 a share this year, Mr. Little pointed out.

Jergens Advtg. Vice-Pres.

William Hausberg, formerly advertising manager for Lehn & Fink Products Corp., New York, was recently named vice-president in charge of advertising for Andrew Jergens Co., Cincinnati.

L. Givaudan in U. S.

On his return trip from Geneva and Paris to Brazil, Leon Givaudan, co-director of Companhia Brasileira Givaudan and son of Andre Givaudan of L. Givaudan & Cie., S. A., Geneva, parent company of Givaudan-Delawanna, Inc., New York, spent several days in New York recently. During his

brief visit, Mr. Givaudan visited with New York firms directly interested in Brazilian activities of the aromatic chemicals and essential oil industry.

Gamble on P&G Board

David G. Gamble, great-grandson of one of the founders of the company, has been elected to the board of directors of Procter & Gamble Co., Cincinnati, it was announced Mar. 14. Mr. Gamble succeeds his father, Cecil H. Gamble, who has resigned after 25 years as a P&G director.

Mr. Gamble's great-grandfather, James Gamble, was a partner of William Procter when the firm was begun in Cincinnati in 1837.

The new P&G director, a member of the Cincinnati legal firm of Taft, Stettinius and Hollister, was graduated from Princeton in 1937 and received his LL.B. from Yale Law School in 1940. He served in the U. S. Navy for nearly four years during World War II. Mr. Gamble is also director of the Community Chest and the Citizens Development Committee and is vice-president of the board of trustees of the Cincinnati Children's Home. His residence is at 8221 Spooky Hollow Road, Indian Hill.

Mr. Gamble's father, Cecil H. Gamble, who was with P&G from 1906 to 1917, served two years as secretary of the company. He was elected to the board in 1920. Although he has continued to maintain an office in Cincinnati, he now resides in Pasadena, Calif.

David G. Gamble



U.K. Syndet Sales Gain

Synthetic detergents now account for approximately 40 percent of the British home market, while deliveries of soap have fallen by over 25 percent since 1949. In the export fields synthetics are reported to show great gains. Most important firms exporting these products include Shell, Monsanto, Imperial Chemical Industries, British Petroleum, Marchon Products, and Laporte Chemicals.

New Dow Rose Odor

The development of a new rose type aromatic chemical designed as a replacement for natural rose geranium oils was announced recently by Dow Chemical Co., Midland, Mich. The new aromatic, trademarked "Rogepel," features, according to the maker, more aroma power, greater stability and lower price. Designed for use in soaps, detergents, shampoos and cosmetic fragrance, samples of the new aromatic are available on request. Write to Department AR 866C, c/o Dow Chemical Co., Midland, Mich.

Hooker Advances Snyder

John F. Snyder, Jr., has been appointed works manager at the Kenton, O., plant of the Durez Plastics Division of Hooker Electrochemical Co., Niagara Falls, N. Y., it was announced recently by Bjarne Klaussen, Hooker president. With Durez since 1949, Mr. Snyder had been superintendent of the recently opened phenolic molding compounds plant. He reports to Jay C. Searer who became production manager of the division in January.

The new works manager is a son of John F. Snyder Sr., Hooker vice-president.

Lever Soap Plant in Burma

Unilever, Ltd. will build a \$2,100,000 soap plant on the outskirts of Rangoon, Burma, it was reported recently. The facilities will occupy a 15-acre site. Machinery will be brought from Britain and installed by Burmese.

Important dates in the History of Industrial Progress



In Transportation . . .

Stephenson, improving on earlier designs and still earlier dreams, built the first practical steam locomotive.

In the history of fats and waxes

GROCO 26 STRIPPED COCONUT FATTY ACIDS

Titre	26° — 29° C.
Color 5¼" Lovibond Red	2.5 max.
Color 5¼" Lovibond Yellow	15 max.
Color Gardner 1933	2 — 4
Unsaponifiable	0.25% — 0.50%
Saponification Value	251 — 258
Acid Value	250 — 257
Iodine Value (WIJS)	7 — 15

Lefevre observed that tallow under the influence of sulfuric acid and supplemented by coconut oil yields fatty acids. Just eight years later, A. Gross & Company began to manufacture fatty acids for industry.

Today, the Coconut Fatty Acids made by A. Gross exemplify the high standards of quality which research and modern production techniques have made possible. Shown in the table are specifications for GROCO 26-STRIPPED COCONUT FATTY ACIDS from which a major portion of the lower acids have been removed. Send for samples and catalog "Fatty Acids in Modern Industry."

A. GROSS & COMPANY

Factory: Newark, N. J.

295 Madison Avenue, New York 17, N. Y.

Manufacturers Since 1837

Distributors In Principal Cities



seeking new **highs** in quality
for detergents?

MATHIESON ETHANOLAMINES

Mono-, di-, and triethanolamines are produced from high purity ethylene oxide and ammonia of our own manufacture. Rigid quality controls from basic raw materials to finished products assure uniform high standards for soap and detergent production. These quality controls also make for better foam stability in end products... greater solubilities in higher concentrations... and, specifically in shampoos, less potential eye irritation.

In addition to supplying the soap and detergent industry with ethanolamines of the highest quality, Mathieson provides polyethylene glycols (Poly-G® 200, 300, 400, 600 and 1000) from strategically located stocks to meet your production schedules. And, for assistance with application problems, Mathieson maintains a staff of technical experts ready to serve you. Call on us to discuss your requirements.



MATHIESON CHEMICALS

OLIN MATHIESON CHEMICAL CORPORATION
INDUSTRIAL CHEMICALS DIVISION • BALTIMORE 3, MD.

INORGANIC CHEMICALS: Ammonia • Bicarbonate of Soda • Carbon Dioxide • Caustic Soda • Chlorine • Caustic Potash • Hydrazine and Derivatives • Hypochlorite Products • Muriatic Acid • Nitrate of Soda • Nitric Acid • Soda Ash • Sodium Chlorite Products • Sulphate of Alumina • Sulphur (Processed) • Sulphuric Acid
ORGANIC CHEMICALS: Ethylene Oxide • Ethylene Glycols • Polyethylene Glycols • Glycol Ether Solvents • Ethylene Dichloride • Dichloroethylether • Formaldehyde Methanol • Sodium Methylate • Hexamine • Ethylene Diamine • Polyamines • Ethanolamines • Trichlorophenol • Polychlorobenzene • Trichlorobenzene

Beauty of fragrance...



...made-to-measure for your success!

*f*ragrance of outstanding beauty adds the distinctive character—the individuality—that can bring success to a perfume or cosmetic...or a complete line!

Givaudan's demonstrated creative skill, its unusual variety of fragrant materials, its world-wide affiliations and its market know-how are all coordinated to bring you fragrances of unique new beauty and originality—made-to-measure for your success.

GIVAUDAN-DELAWANNA, INC.

330 West 42nd Street • New York 36, N. Y.





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DO YOUR SYNTHETIC DETERGENTS CONTAIN ENOUGH SILICATE *to protect these?*

When you use PQ silicates in your detergent slurries, you protect your equipment against corrosion. Just as important, you add the sales advantage of protecting consumer's tableware, appliances and kitchen equipment.

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In New Armour Posts

The appointment of E. L. Rhoads as manager of the derivatives department of the chemical di-



E. L. Rhoads

vision of Armour & Co., Chicago, was announced recently by J. M. Hoerner, division general manager. Mr. Rhoads succeeds R. R. Burns, who has resigned.

Previously manager of the

market development department, Mr. Rhoads also served earlier as assistant manager of the derivatives department.



Karl M. Bierman

Karl M. Bierman has been named manager of market development. He was formerly a chemical specialist in that department, and before that was in the market research department.

Heads Chicago Group

E. R. Kuehne, district manager of Mallinckrodt Chemical Works, Inc., has been elected president of the Chicago Perfumery, Soap and Extract Association, Inc., it was announced recently. Other officers installed for 1956 are: E. F. LaSarre, St. Clair Specialty Manufacturing Co., who succeeds Mr. Kuehne as the association's vice-president; Jack W. Baldwin, Hazel Atlas Glass Co., treasurer; and Ray B. Harcombe, Merchants Chemical Co., secretary.

In addition to the above officers, the board of directors for 1956 is composed of: Wesley A. Frederickson, A. M. Steigerwald Co.; Kenneth W. Hartley, Dodge & Olcott, Inc.; L. F. Haznaw, Florasynth Laboratories, Inc.; J. P. Helfrich, Helfrich Laboratories, Inc.; R. A. Olson, S. B. Penick & Co.; H. W. Jelly, Walter H. Jelly & Co.; Stanley Olds, Hoffman Industrial Chemicals, Inc.; Jake Browning, Demert & Dougherty, Inc.; R. E. Kaye, Jr., Geigy Industrial Chemical Co.; A. F. Lange,

Hazel Atlas Glass Co.; L. H. Keeper, Abbott Laboratories, Inc. Honorary member of the board is Ellis Johnson, Imco Container Corp.

The group was founded in 1906 and has 400 members.

Kutol With Lecithin

Kutol Products, Inc., Cincinnati, announced recently that its "Kutol" powdered industrial hand cleaners are now formulated with lecithin as the active emollient.

E. R. Kuehne



P&G Seeks Stock Split

A two-for-one split in shares of the common stock of Procter & Gamble Co., Cincinnati, will be considered at a special meeting of shareholders, the board of directors of P&G decided at its regular meeting in Cincinnati last month. The special meeting will be held May 22, at which time stockholders will be asked to "give consideration to and take favorable action on" increasing the authorized number of common shares from 15 million without par value to 25 million with par value of \$2.00 per share. They will also be asked to change each of the present outstanding shares of common stock into two shares of the new \$2.00 par value stock.

The board fixed the close of business on April 20 as a record date for shareholders entitled to notice of and to vote at the meeting. Notice of the meeting will be mailed to shareholders about May 4 and if the action is approved, certificates for the additional shares will be mailed on or after June 22, the company said.

Barker To Emulsol

Graham Barker has joined Emulsol Chemical Corp., division of Witco Chemical Co., New York, as industrial products technical representative, it was announced recently by Solomon Epstein, executive vice-president. Mr. Barker has been assigned to the New York-New Jersey area and will have his headquarters in Newark. Before joining Emulsol Mr. Barker was associated with Diamond Alkali Co., Cleveland, and with Glyco Products Co., New York.

Orbis Lists Products

Orbis Products Corp., New York, published last month a revised 1956 edition of its catalog of essential oils, aromatic chemicals, perfume concentrates and compounds and related products. The 25-page pocket size booklet gives descriptive and price information. At the same time the firm has issued a booklet carrying similar information on its line of flavors and spices.



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In New ADM Posts

The addition of three new men to the staff of the recently formed development department of

Dr. Bidlack previously worked as a development engineer in the chemical division of Celanese Corporation of America. He is a



Walter Thulin



V. C. Bidlack, Jr.



D. A. Beadell

Archer-Daniels-Midland Co., Minneapolis, was announced early in March by Dr. George C. Nelson, department director.

Donald A. Beadell has been appointed manager of industrial chemicals development; Dr. Verne C. Bidlack, Jr., will work with plasticizers and resins, and Walter Thulin has been assigned to agricultural products.

Mr. Beadell spent nine years working with industrial chemicals at General Aniline and Film Corp., New York, prior to joining ADM. He is a 1939 graduate of Penn State College.

graduate of the University of Michigan (1944); took post-graduate work at Penn State, where he received his doctorate in 1950, and also was graduated from Temple University with a degree in business administration in 1953.

Mr. Thulin was supervisor of new product development for a Minneapolis milling concern before joining ADM. He holds a bachelor of chemistry and a bachelor of business administration degree from the University of Minnesota. In 1954 he received his master of business administration from Harvard Graduate School of Business.

Chi. Cos. Chems. Meet

E. G. Tajkowski of General Electric Co. spoke at the April 10 meeting of the Chicago Chapter of the Society of Cosmetic Chemists. He presented a progress report on silicones in cosmetics and pharmaceuticals and illustrated his talk with slides.

SAACI Golf Outings

Dates for the five 1956 golf outings of the Chemical Salesmen's Association of the American Chemical Industry were announced recently by Stewart Cowell of J. T. Baker Chemical Co., New York, chairman of the SAACI golf committee. The dates and places are: Thursday, May 17, Huntington Crescent Club, Huntington, L. I., N. Y.; Tuesday, June 19, Knickerbocker Country Club, Tenafly, N. J.; Thursday, Aug. 16, Tamarack Country Club, Greenwich, Conn., and Tuesday, Sept. 11, Hackensack Country Club, Oradell, N. J.

The August outing at Tamarack Country Club will combine a day of golf with an outdoor clam-bake.

Meek in Solvay Post

Arlington R. Meek has been advanced to general traffic manager, Solvay Process Division, Allied Chemical & Dye Corp., New York, it was announced last month by Carlton Bates, president. Mr. Meek succeeds F. W. Brown who retired in January after 30 years service. With the company since 1927, Mr. Meek became assistant general traffic manager in 1954.

Hugh J. Menghi Dies

Hugh J. Menghi, 62, general cashier of Lever Brothers Co., New York, until his retirement last June, died of a heart attack Mar. 6, at his home in Scarsdale, N. Y. He is survived by his widow, Josephine; a son, Capt. Hugh J. Menghi, Jr., U. S. A. F., of Washington, and a daughter, Mrs. John Canton of Sharon, Mass.

New main office and headquarters building of Colgate-Palmolive Co., at 300 Park Ave., New York. Company moved into new quarters recently from Jersey City, N.J. Plant and laboratory staffs remain in Jersey City. A new research center is being built by the company in Bloomfield, N.J.





Choose Wyandotte Carbose* for improved detergency

CARBOSE, Wyandotte's special sodium CMC, is a highly effective detergent additive. Combining exceptional economy with its inherent effectiveness as a builder, it is designed for use with detergents in water of any hardness.

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Exceptional products — like Carbose — are the result of extensive Wyandotte research and field testing. Perhaps it is just the product you need for your own operations. Why don't you investigate its possibilities for yourself? Call in a Wyandotte representative today, or write us direct. *Wyandotte Chemicals Corporation, Dept. SCS 5, Wyandotte, Michigan. Offices in principal cities.*

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AGENTS • SODA ASH • SODIUM BICARBONATE • SOLVENTS (CHLORINATED) • WATER
SOFTENERS • WETTING AGENTS

Borax Co. Sales Meeting

Future expansion plans of Pacific Coast Borax Co., Los Angeles, were revealed at a recent bulk chemical sales conference held at Furnace Creek Inn, Death Valley, Calif. Members of the company's industrial, plant food and agricultural sales divisions heard the details of the company's open-pit boron mining operations and the expanded plant now under construction at Boron, Calif. The new plant and mining facilities will provide a substantial overall increase in capacity to take care of the growing demand for borate products in industry and agriculture, company officials pointed out.

Shown for the first time was the company's new motion picture, "The Modern Way to Weed Control," illustrating the importance of chemicals for the control of weeds in industry and agriculture. The film is now in general distribution and can be obtained by contacting Pacific Coast Borax Co., division of Borax Consolidated, Ltd., 630 Shattuck Place, Los Angeles 5, Calif.

Sales personnel from all over the United States and Canada, representing the company's bulk divisions, were in attendance. Among those addressing the group were N. C. Pearson, director, Borax Consolidated, Ltd., London; J. M. Gerstley, president and general manager, Pacific Coast Borax Co., and J. F. Corkill, vice-president in charge of sales.

— ★ —

Snell Water Group Rep.

Foster D. Snell, president of Foster D. Snell, Inc., New York, has been appointed representative of the United States on the Water, Sewage, and Sanitary Wastes Division of the Applied Chemistry Section of the International Union of Pure and Applied Chemistry. Other nations represented are: Holland, Belgium, Great Britain, France, Switzerland and Germany. Subject of the international study is the economic use of water and the solution of effluent problems in industry.

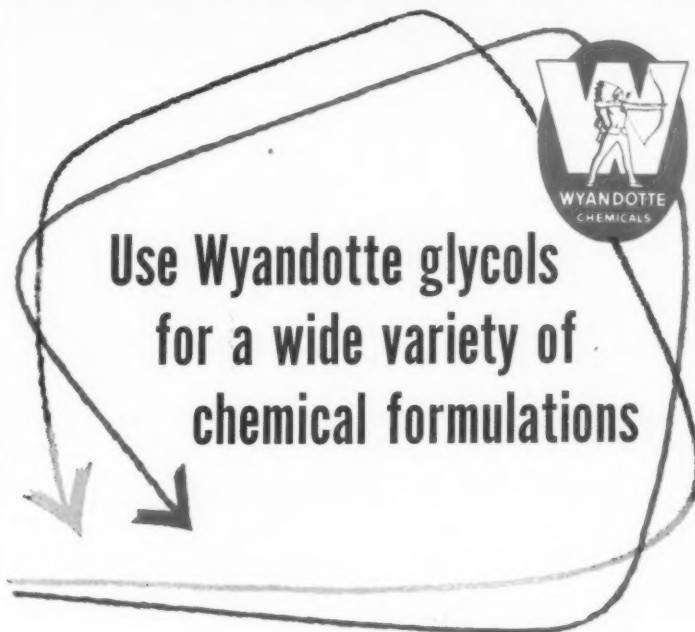
Mrs. William T. Haebler of Pelham Manor, N. Y., widow of William T. Haebler, executive vice-president, treasurer and a director of van Ameringen-Haebler, Inc., New York perfuming materials firm, was appointed to the board of trustees of Goucher College, Baltimore, it was announced last month. She fills the unexpired term of her husband who died in February.

The total production of inedible tallow and grease in 1955 approached the three billion pound mark, a record breaking figure, according to the report published by Davidson Commission Co., Chicago. The firm has just issued the 52nd edition of its annual "High and Low Records of Fats, Oils and By-Products." Soap makers used 787,000,000 pounds of inedible tallow and grease in the first 11 months of 1955 compared with 762,000,000 pounds during all of 1954. Exports in the first 11 months of 1955 rose to 1,186,400,000 pounds from 1,158,300,000 for the whole year in 1954. High and low prices for prime tallow in the eleven months' period of 1955 have been 8¼ cents and six cents, respectively, compared with eight cents and 5¼ cents in 1954.

Total consumption of inedibles in 1955 (11 months) amounted to 1,441,000,000 pounds of which a little less than half went into soap-making. In 1939, the soap industry consumed 906,000,000 pounds out of a total consumption of 1,079,000,000.

Joseph Baird Magnus, vice-president of Magnus, Mabee & Reynard, Inc., New York, has been elected to serve on the board of managers of the North-Eastern Dispensary in the City of New York, for the term ending February 1958. The dispensary was established as a charitable organization in the borough of Manhattan in the first decade of the nineteenth century.

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Perhaps Wyandotte glycols are the very thing you are looking for in your own formulations . . . to improve them, make them more useful, more durable.

For, of the many petrochemicals being produced today, the glycols are proving to be among the most valuable and versatile—the most widely adapted in industry.

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There's one place, though, where even the keenest competitors agree. That's in their supply source for sodium phosphates . . . Shea, of course.

Day by day, an increasing number of industrial users of phosphorus chemicals are turning to Shea as an unailing source of supply.

The reason? Shea's ability to adjust itself to the needs of big and small users alike.

Sodium Tripolyphosphate
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Feed Grade
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Colgate Advances Buckner

Eugene E. Buckner has been advanced to assistant sales manager, it was announced recently by Frank



Eugene E. Buckner

W. Reif, general manager of the home office soap sales department of Colgate Palmolive Co., New York. Mr. Buckner had been New York divisional manager prior to this appointment, in which he succeeds Michael P. Frawley, who was recently advanced to sales manager of the department.

New "SBS" cream deodorant soap shown being dispensed from throw away container. Both hand cleaner and dispenser are products of Sugar Beet Products Co., Saginaw, Mich. "SBS 60" is a white, opaque, thick-bodied cream that is claimed does not run off the hands when dispensed. A synthetic detergent produces cleansing action in combination with other ingredients. The cleaner contains lanolin. Product is metered out in sufficient amounts for hand washing from manually operated dispenser in ribbon like form. This plus fact that cream adheres to skin is said to cut waste.



Lever Research Changes

Seymour Goldwasser has been advanced to the newly created position of senior scientist in the



Seymour Goldwasser

research and development division of Lever Brothers Co., New York, it was announced early this month by L. B. Parsons, vice president. At the same time Frank H. Healey has been named chief of the physics and physical chemistry section.

Dr. Goldwasser, who joined Lever as senior research chemist in 1946, will now devote his attention entirely to scientific problems with-

out heavy administrative duties. He has served with Lever as supervisor of the analytical chemistry section and later as supervisor of the physi-



Frank H. Healey

cal and spectrophotometric section. Prior to joining Lever Brothers he was associated with M. W. Kellogg.

Dr. Healey comes to his new assignment from Lehigh University where he has been teaching since 1949, most recently as assistant professor of physical chemistry. He has also served on many government and industry sponsored research projects.

Forecast for Surfactants

The new role of surface chemistry in modern technology is the theme of a booklet published recently by Foster D. Snell, Inc., New York. Entitled "Explore, Expand, and Diversify with Surface Chemistry at Foster D. Snell, Inc.," the publication points out how modifications with surfactants can improve processing methods, products, and market potentials.

Soap Industry Booklet

Soap and Detergent Industry by Oliver M. Gale, Bellman Publishing Co., Cambridge, Mass., paper covered, nine inches by six inches, price one dollar. This most recent addition to Bellman's Vocational and Professional Monograph Series is authored by the manager of the public relations department of Procter & Gamble Co., Cincinnati. Like other pamphlets in this series, it is intended for counseling work and for individual reference purposes in the choice of a career. The history of the soap and detergent industries is outlined, employment opportunities covered, and the future outlook analyzed.

Dr. Sibaud Joins Rhodia

Dr. Jacques P. Sibaud has been appointed manager of laboratories for Rhodia, Inc., manufacturer of aromatic chemicals and industrial reodorants, New York, it was announced in March. A native of Toulon, France, Dr. Sibaud attended the University of Lyon and was graduated with a degree of Ingenieur E.S.C.I.L., which is the equivalent of a B.S. degree in chemical engineering in the United States. He took post-graduate courses at the same university and obtained his doctorate in chemistry in 1952.

Dr. Sibaud then joined Rhone-Poulenc, Paris, where he was trained in the field of synthetic aromatics through development, control and research work. He was associated with Rhone-Poulenc until his transfer to Rhodia in March. Dr. Sibaud is a member of the Societe Chimique de France.

J. C. Quigley, left, of Procter & Gamble Co., Cincinnati, received a Record of Appreciation recently from Denys S. Slater, president of the American Institute of Laundering, for advertising and promotion of professional laundry service by P&G. Currently P&G is sponsoring a television advertising campaign on behalf of its "Duz" soap, which gives the professional family laundry some of the most favorable publicity it has ever received. The commercials are based on the fact that 8 out of 10 professional family laundries use soap.



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based on
tetrapropylene polymer

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sodium sulphonate*

*** NANSA S. POWDER**

*40% spray dried dodecyl
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synthetic detergent containing
molecularly condensed phosphates,
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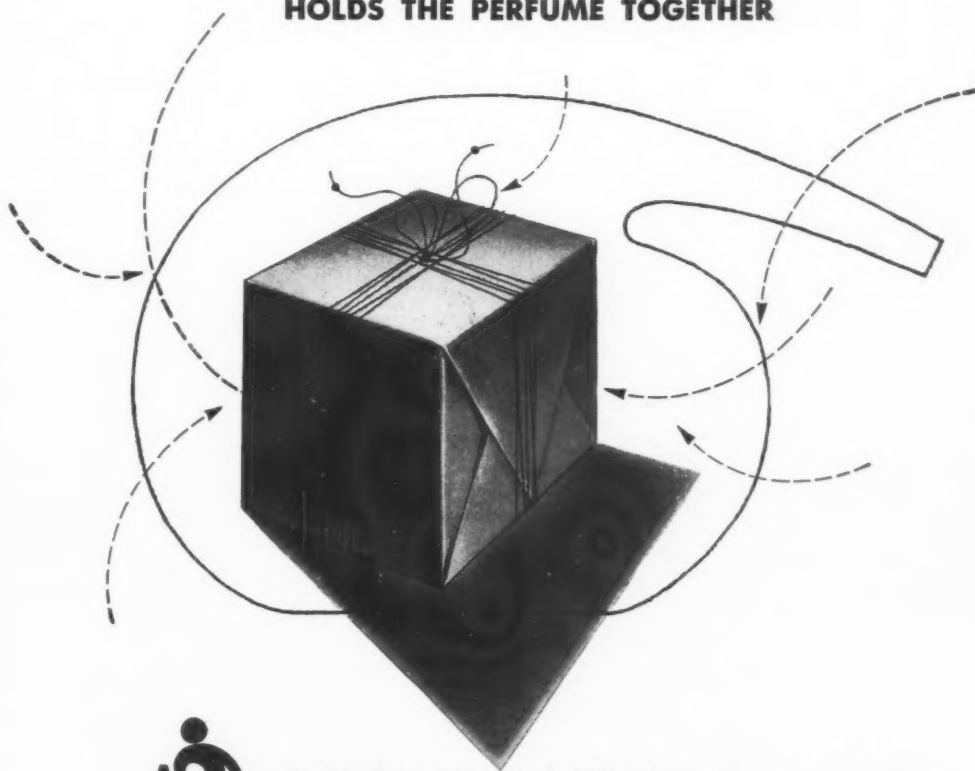
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lasting, economical**

Useful addition to present standard fixatives

Does not discolor perfumes, creams, soaps, and
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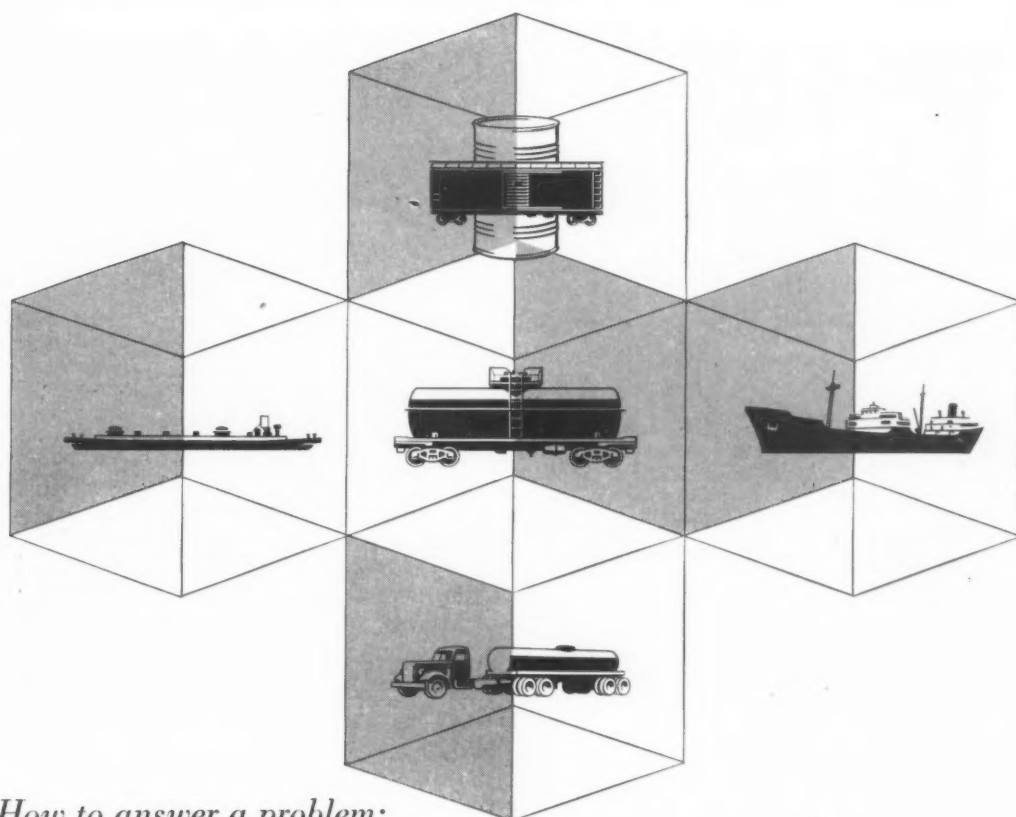
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Committee D-12 Meets

APPPOINTMENT of 21 new task groups to develop and revise test procedures for soaps and synthetic detergents was announced by Committee D-12 on Soaps and Other Detergents of the American Society for Testing Materials during its annual meeting March 19 and 20 at the Park Sheraton Hotel, New York. The task groups operate within subcommittee T-2, Analysis of Soaps and Synthetic Detergents. Recently reorganized as a joint committee of ASTM Committee D-12 and the American Oil Chemists' Society under the chairmanship of J. C. Harris, Monsanto Chemical Co., Dayton, T-2 has subdivided its tasks as follows: problem advisory group; rapid spectro-photometric determination of copper in soap; bibliographical abstracts of analytical methods for surfactants; determination of active ingredient in un-built surfactants; infra-red determination of surfactants; volumetric method of total P_2O_5 ; glycerol in soap by periodate oxidation; determination of CMC; SO_4 content in presence of phosphates; determination of active ingredient by UV absorption; determination of tripolyphosphate; rapid determination of moisture by infra-red lamp; determination of active ingredient in soaps containing synthetic detergents by cationic titration; qualitative methods for identification of surfactants and organic builders; critical review of methods of analysis of inorganic builders; total active ingredient (regardless of kind); and detergent alkylate.

T-2 expects to submit several proposals for approval and action

at the AOCS fall meeting in Chicago, Mr. Harris said.

Subcommittee T-4, Analysis of Alkaline Detergents, chairman W. H. Koch, Niagara Operations of Olin Mathieson Chemical Corp., Niagara Falls, N. Y., recommended adoption of a modification of the Martin and Doty method for determination of orthophosphate in sodium tripolyphosphate. The new procedure will be published in a revision of D 501-55T (Tentative Methods for Sampling and Analysis of Sodium Triphosphate). Two task groups within T-4 are working on the analysis of tripolyphosphate by the cobalt complex of Weiser and on chromatographic analysis of polyphosphates, respectively.

Anthony M. Schwartz of Milton Harris Associates, Washington, D. C., is resigning from the chairmanship of subcommittee T-5, Physical Testing, and will be succeeded by M. G. Kramer of Wyandotte Chemicals Corp., Wyandotte, Mich. T-5 currently has five active task groups working on: evaluation of brightening agents, wetting tests, rewetting tests, detergency evaluation, and measurement of fabric reflectance.

A 1956 supplement to the bibliographical abstracts on evaluation of brightening agents for de-

tergent usage has been compiled by L. E. Weeks of Monsanto. 28 references are included and indexed by subjects and authors.

Subcommittee T-6, Analysis of Metal Cleaners, chairman Hans A. Kafarski, Ford Motor Co., heard a report of the automotive task group on a study of metal cleaning in this field. A test method for compounds used in automotive spray power washing is being developed. A corrosion test method for vitreous enamel surfaces is to be submitted to the subcommittee for study and possible recommendation as a standard.

According to its rules prescribing election of officers every second year Committee D-12 reelected its chairman, J. C. Harris and its secretary, E. W. Colt of Armour & Co., Chicago. W. H. Koch was elected vice-chairman succeeding Fred Krassner, U. S. Naval Supply Activities, Brooklyn, N. Y., who has resigned. Mr. Krassner's place on the advisory committee G-1 will be taken by William Stericker of Philadelphia Quartz Co.

Committee D-12 advanced two tentative methods to standards: D 1172 - 54 T, Test for pH of Aqueous Solutions of Soaps and Detergents; and D 1331 - 54 T, Test for Surface and Interfacial

ASTM Committee D-12 organizes joint committee with AOCS on soap and synthetic detergent analysis. Vitreous enamel corrosion test is described.



MECCANICHE MODERNE

CORSO SEMPIONE, 51

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It is the only plant on the market which continuously cools soap with simultaneous extrusion of a continuous bar maintaining unchanged total fatty acids content as determined before cooling.

It comprises one special cooling plodder which, working without any endless screw, can extrude soaps made with fats having a high or low melting point even if containing high percentages of water or builders, namely:

- Pure soaps having 62-63% T.F.M.;
- Soaps having T.F.M. from 35% to 62-63%;
- Soaps having T.F.M. 62-63% with 25÷30% rosin;
- Soaps having 56% T.F.M. with 25-30% rosin, filled with silicate or soda carbonate;
- Mixing soaps having 100% coconut oil;
- Olive oil foots soaps;
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Savings: Steam, 100% — Labor, 70% — water, 50% — power, 50%.

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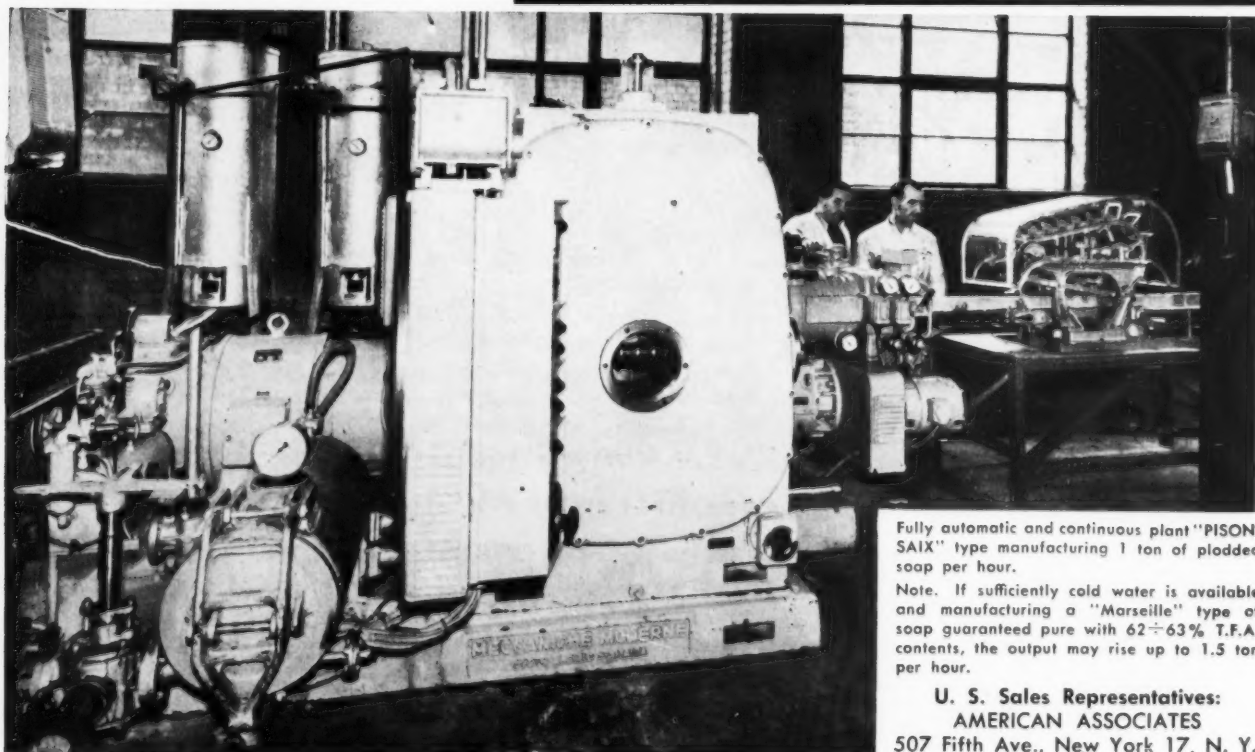
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Tension of Solutions of Surface-Active Agents. Continued as tentative methods were: D 1279 - 53T, Test for Buffering Action of Metal Cleaners; D 1280 - 53T, Method of Total Immersion Corrosion Test for Soak Tank Metal Cleaners; and D 1281 - 53T, Test for Rinsing Properties of Metal Cleaners.

Enamel Corrosion Test

A PAPER on "Vitreous Enamel Corrosion Test" by J. C. Harris, M. G. Kramer, and M. V. Trexler of Monsanto, was presented by Mr. Trexler on March 19. Apparatus and methods used in the test were described. Enamel coupons were boiled for five two-hour periods in solutions of different detergents. Corrosion was determined by weight loss of the coupons. Both inhibited and uninhibited phosphate based detergents were used, metasilicate being the inhibitor. The test method was found capable of showing the difference between the vitreous enamel corrosion characteristics exhibited by different detergent compounds and between inhibited and uninhibited detergents.

"Some Aspects of Brightener Testing" by H. W. Zussman, W. Lennon, and W. Tobin of Geigy Industrial Chemicals Division, New York, was read by Dr. Zussman. Factors influencing performance characteristics and evaluation of brightening agents in the most commonly used household detergents were studied.

In preparing brightener-detergent solutions for test purposes it is important to maintain realistic dissolving procedures. Stability of the brightener should be determined under simulated plant processing conditions and undue exposure to light should be avoided because brighteners are photosensitive while in solution. Water hardness was found to have no significant effect while copper traces had a detrimental effect in at least one instance. Residual chlorine in treated water should also be avoided.

In the laundering process elevated temperatures leave some brighteners unaffected, while others

show enhanced exhaustion. Two brighteners, which exhibited little change in brightening power at raised temperatures (80-140°F) when used on cotton, showed faster or more complete exhaustion on nylon at the same temperatures. Under normal washing conditions absorption of the brightening agent occurs well before completion of the washing cycle. Rate of absorption and uniformity of dyeing are increased with increased mechanical agitation. Prolonged rinsing was found to have only a minor effect on brightener desorption. A single laundering operation employing a massive dose of brightener will create a buildup similar to that obtained by a large number of consecutive washes. However, the total immersion rinse time must be the same in both cases if indicative results are to be obtained.

Performance of the brightener is greatly dependent upon the nature of the detergent formulation. Some dyes, while being incompatible with nonionics, may perform satisfactorily when incorporated in an anionic formulation. The pH of the formulation influences adsorption, leveling, and build up characteristics of the brightener. Probably builder/diluent composition also plays a part in the uptake of optical brighteners by the fiber.

Brighteners exhibit good resistance to oxygen yielding bleaching agents and may be used in the same wash cycle with perborates, hydrogen peroxide, and other "per" compounds. However, only a very few of the brighteners may be used with chlorine bleaches, most of them are destroyed by the presence of chlorine in the washing liquor. Bleach sensitivity may also vary with composition of the total formulation.

Affinity of brightening compounds for different fabrics varies widely. Whitening action on viscose rayon was found to be not as good as on cotton, but cotton whitening is affected by the presence and nature of sizes and probably of resin finishes. Some preliminary work was done with all-purpose bright-

eners on mixed loads. In at least one case there was evidence that synthetic fabrics may "rob" the cotton of brightener action.

Relative humidity was found to increase the fluorescence of treated cotton. One product exhibits hue development when the fabric is damp but is satisfactory after drying. Loss of fluorescence sustained during ironing is usually, but not always, regained rapidly and completely. Prolonged exposure to heat, as for instance in electric dryers, may exert a quenching effect on some products. Light stability of treated fabrics was found to be surprisingly similar for chemically different brighteners and was also found to be dependent on the moisture content of the fabric. Stability of fabric fluorescence to hypochlorite proved to be almost uniformly good. However, in one instance where cotton had been washed with a nylon brightener-detergent composition, the cotton discolored upon treatment with hypochlorite. At least one brightener showed poor stability to laundry sour.

Drycleaning Soil Removal

A STUDY on "Determination of Water-Soluble Soil Removal in Drycleaning" by G. P. Fulton, A. C. Lloyd, F. Loibl, G. Moore, and D. Reichard, National Institute of Drycleaning, Silver Spring, Md., was presented by Mr. Fulton. Removal of water soluble soil from garments is probably the most important function of a drycleaning detergent, because this type of soil includes many of the spots caused by foodstuffs and beverages, Mr. Fulton said. If these spots are not removed during the dry cleaning process they must be removed later by what is known as "spotting". If the garments are so badly soiled that "spotting" becomes impractical they must be immersed in water. This "wet-cleaning" is a costly process which requires extra time for pressing and involves the risk of fabric shrinkage, color bleeding and other changes. To measure water-soluble soil removal

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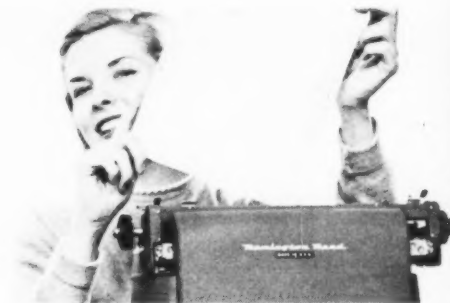
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a rayon swatch soiled with sodium chloride has been used for a number of years. Current studies seek the answer to some questions arising out of this test method. Is there a point above which the amount of sodium chloride removed ceases to be indicative of soil removal? If a perchlorethylene plant and a Stoddard solvent plant are both removing the same amount of sodium chloride from these swatches, are they both removing the same amount of water-soluble spots? Is there any other type of soiled swatch which will give better correlation with actual spot removal than the sodium chloride rayon swatch in present use?

Test apparatus and procedure are described. Nine different fabrics and eight different staining materials, 72 different water-soluble spots in all, were processed. For evaluation as potential indicators the investigators used swatches carrying carbon type soil, sodium chloride, glucose, fructose, sucrose and urea. No correlation was established between carbon type soil removal and removal of the actual spots. This confirmed previous findings. Results with sucrose appeared to have little or no significance, and urea removal also showed poor correlation.

The sodium chloride rayon swatch was found suitable for measuring removal of water-soluble soil in dry cleaning systems using Stoddard solvent when the relative vapor pressure of water is in the range of 0.70 to 0.75. When the relative vapor pressure of water was below this range, removal of spots from fabrics dropped more rapidly than removal of sodium chloride from the rayon swatch. Cleaning in perchlorethylene showed more removal of spots from fabrics than did cleaning in Stoddard solvent when the same degree of sodium chloride removal was reached.

Removal of glucose from a rayon swatch was proportional to removal of spots from fabrics, even when the relative vapor pressure of water was below 0.70. Cleaning in perchlorethylene had removed

more spots from fabrics than did cleaning in Stoddard solvent when similar levels of glucose removal were reached.

When a fructose rayon test swatch was used, spot removal from fabrics appeared approximately the same in perchlorethylene and in Stoddard solvent when fructose removal was the same in both solvents.

Results showed that removal of water-soluble soil in a drycleaning system can be studied in launder-o-meter jars provided certain precautions are taken: the relative vapor pressure of water in the system must be controlled; when sodium chloride swatches are used, unsoiled fabric must be included in the jars because it is important to determine the rate of transfer of the sodium chloride from one fabric to another. When using sugars, the blanks are of questionable importance, since the transfer of sugars is negligible.

The experiments were run with two anionic detergents, commercially sold to the trade. Concentrations ranging from one to four percent were used to achieve different levels of soil removal.

A preliminary report on a rapid method of detergency evalua-

tion by means of an ultrasonic transducer by Joseph C. Sherrill, Texas State College for Women, and W. Craig White, Quartermaster Research and Development Center, Natick, Mass., was presented by Mr. White. Work on the magnitude of forces binding soils to textile surfaces was described. In these studies the authors used an ultrasonic transducer as a means for providing mechanical action of precisely controlled magnitude. The known energy output of the transducer can be related to the amount of soil removed. Speed, accuracy and precision of this method are said to be superior to existing detergency test methods. Following Mr. White's talk ultrasonic instruments adaptable to detergency evaluations were demonstrated by Raymond Alan of the Industrial Scientific Products Division of Curtiss-Wright Corp.

— ★ —

Nat. Aniline Expands Lab

Plans for the erection of an addition to its research-engineering center located at its Buffalo, N. Y., plant were announced recently by Dr. Wesley Minnis, director of research and development of National Aniline Division, Allied Chemical & Dye Corp., New York. The new building will provide increased

Newest addition to the line of Beach Soap Co., Lawrence, Mass., is "Hycon" professional dry bleach. Designed for use by professional laundries, the new product is a highly concentrated dry chlorine bleaching compound. At the same time Beach announced that it had reformulated its "Prime Soap." The product is a homogenized built soap containing a new stain solvent and a whitening agent said to be effective on synthetic and natural fibres.



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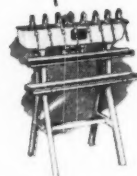
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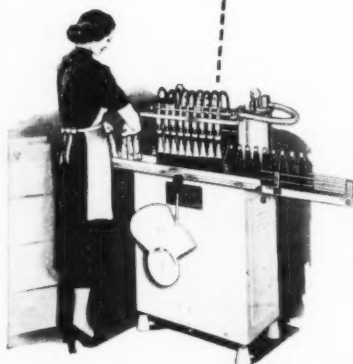


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space for application research on diisocyanates which are being produced by National Aniline Division for sale under the trade name of "Nacconates."

The company's new plant for producing the "Nacconates" is now nearing completion in Moundsville, W. Va. This will provide large scale facilities for production of the diisocyanates.

The new addition for application research has come within a year of the dedication of the new large research-engineering center. The addition is a one-story structure providing approximately 10,000 square feet of floor space. It is expected to be completed for occupancy by late 1956.

New Ethylene Oxide Plant

Construction plans for a new ethylene oxide and ethylene glycol plant were announced Mar. 19 by General Aniline & Film Corp., New York, as the latest step in its program of chemical expansion and integration. The new facilities, which are expected to cost about \$8,000,000, will be located at the existing dyestuff and chemical division plant in Linden, N. J.

The ethylene oxide from the new plant will be used primarily in the production of the company's own detergents and surface active agents, including such bulk products as the "Igepals," "Alipals" and "Igepons."

General Aniline's ethylene oxide plant will have a production capacity of 60 million pounds a year. It will also be equipped to manufacture ethylene glycol of the antifreeze, industrial and fibre grades, as well as diethylene glycol.

Scientific Design Co., New York, has been selected to design and engineer the new installation and will use their process involving the direct oxidation of ethylene. The ethylene will be purchased from Enjay Co. It will be brought by pipeline from the recently announced ethylene facilities of Esso Standard Oil Co., at its nearby Bayway refinery.

Construction of the General



Artist's sketch of \$11,000,000 chlorine-caustic soda plant of Hooker Chemicals, Ltd., scheduled for operation in early 1957. First such plant on western Canadian seaboard, it will occupy 100 acres of land on deepwater at Burrard Inlet, east of the Second Narrows Bridge near Vancouver. Hooker Chemicals, Ltd., is a wholly owned subsidiary of Hooker Electrochemical Co., Niagara Falls, N. Y. Plant will be the first to employ newly developed Type S 3-B electrolytic cell to produce chlorine and caustic soda. New cells permit operation at 30,000 amperes rather than 27,000, thus raising output per cell with no increase in floorspace.

Aniline & Film plant will start in about six months, with operations scheduled for 1957.

Other phases of the company's current expansion program in the surfactant field include a new surfactant plant now being built at Calvert City, Ky., and leasing of large detergent storage tank facilities in Los Angeles and Alameda, Calif.

Dry Form "Perma Kleer"

A new dry form of "Perma Kleer 80" sequestrant was placed on the market last month by Refined Products Corp., Lyndhurst, N. J. "Perma Kleer 80" combines with water to form a crystal which is no longer hygroscopic but is suitable for dry mixtures. Caking during storage and picking up of moisture on exposure to humid atmosphere are eliminated by the use of the crystalline form of the sequestrant. Powdered soaps or detergents incorporating the "Perma Kleer 80 Crystals" do not become hygroscopic owing to the presence of this

sequestering agent. Incorporation of water of crystallization into the molecule does not reduce chelating values. The content of active chelating agent is higher in the crystallized form than in any other form offered commercially. The crystalline structure holds in exact ratio the sodium ion, acid and water content, and causes stability of pH and assay. Stable chelates are formed by this product with all divalent and most trivalent metal ions. Ferric ion is chelated in acid and neutral media.

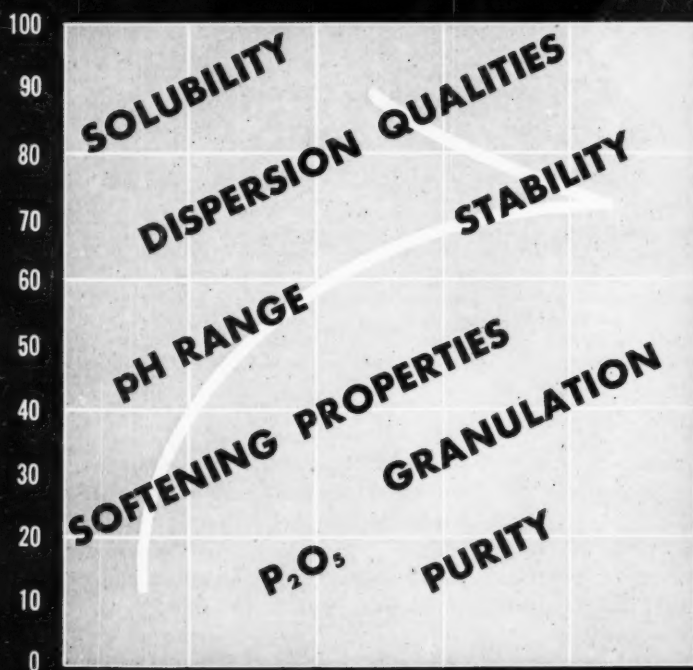
Glass Container Promotion

Liquid polishes, bleaches, dishwashing detergents and window cleaners are pictured in a national advertising and publicity campaign for household aids packaged in glass. Sponsored by the Glass Container Manufacturers Institute, New York, the campaign uses full page, full color advertisements in the April issues of *McCall's*, *Good Housekeeping*, *Family Circle* and *Woman's Day* magazines.

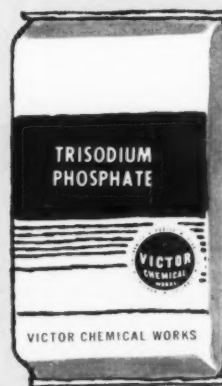
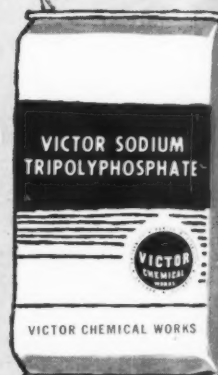
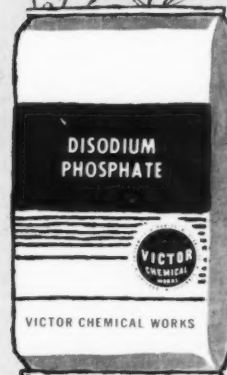
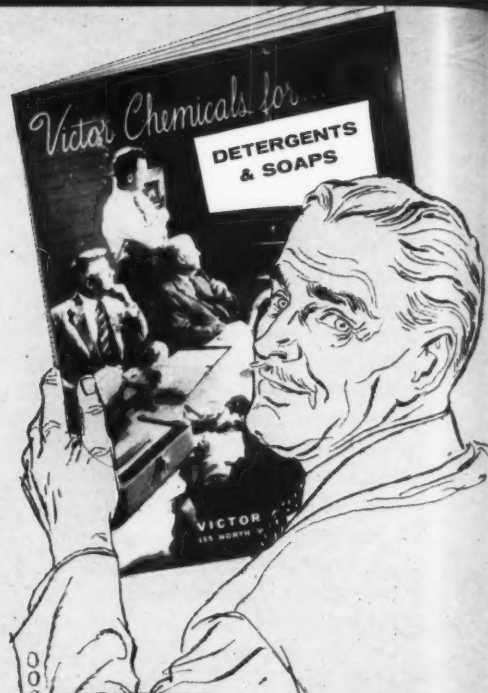
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Bentonite as Soap Filler

Bentonite as a possible filler for laundry soap is investigated. Properties of soap containing bentonite are compared with those exhibited by soap containing water glass. Bentonite incorporated in soap up to 20 percent by weight remains in suspension for a fairly long time. But soaps containing a higher percentage easily give sediment on being treated with water. This problem was not encountered with soap containing water glass. Aqueous soap solutions containing bentonite below the critical percentage by weight of soap exhibit foam height and surface tension comparable to those incorporating water glass. Experimental procedures are described and results are tabulated. "Use of Bentonite as a Filler in Soap" by Rabindranath Bagchi & K. B. Mukherji, University of Calcutta, *Ind. Soap Journal*, vol. 21, p. 105, Nov. 1955.

Oil Soap Hydrolysis Study

Hydrolysis in oil-dispersed soaps having practical implications for industry are the subject of a Navy research report released recently by the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C. Effects of hydrolysis in carboxylate-containing soap systems and in those containing alkali or alkaline earth sulfonates are compared. Applications where sulfonates may be preferable are suggested. Report PB 111738 is available from OTS, price 50 cents.

Nonionics in Hand Cleaners

A light duty hand cleaner may be based on one of several polyoxyethylene detergents. A solution of such a compound, thickened to prevent dripping and spilling, is said to be an effective hand cleaner without additional water. Mild in its action on the skin, such a product is suggested for the traveller

and for office and factory workers. However, it is not intended for the removal of heavy grime and grease. Nonionic detergents of the "Igepal" type are suggested for such formulations. "Igepals" are alkyl phenoxy polyoxyethylene ethanols made by General Aniline & Film Corp., New York. Their incorporation in hand cleaners of this type is covered by U. S. patent 2,702,277. The slippery feel characteristic of soap solutions is lacking in "Igepal" solutions. According to the patent this may be remedied by the addition of the water soluble salt of a polymeric material prepared from vinyl methyl ether and maleic anhydride. While imparting the desired soapy feel this additive also acts as a thickener for the solution. The potassium salt is preferred because it gives higher viscosity than the sodium and ammonium salts.

The following example is given in the patent: water 90, PVM/MA 0.4, potassium hydroxide to give a pH of 7, Carbowax 1500 (polyethylene glycol) 5.0, Igepal CA-630 5.0, 8-hydroxyquinoline (preservative) 0.01 Carbowax is included as an emollient. PVM/MA is dissolved in water with the aid of the potassium hydroxide. Mix Igepal and preservative with melted Carbowax. Mix with aqueous solution.

Two other nonionics suggested for use in aqueous hand cleaners are "Tween 80" and "Renex 20," both of Atlas Powder Co., Wilmington, Del. "Tween 80" is described as polyoxyethylene sorbitan mono-oleate, "Renex 20" as polyoxyethylene esters of mixed fatty and resin acids. Sodium carboxymethyl cellulose can be used as thickeners for solutions of the synthetic detergents.

Hand cleaners based on petroleum solvents are capable of removing heavy grime and grease but have an odor which is difficult to cover. Aqueous hand cleaners of the

type here described have little odor and may be perfumed with any of the perfumes considered suitable for detergent shampoos. A concentration of 0.3 to 0.4 percent of the perfume oil should be adequate. *Schimmel Briefs*, February 1956.

Skin Protectant

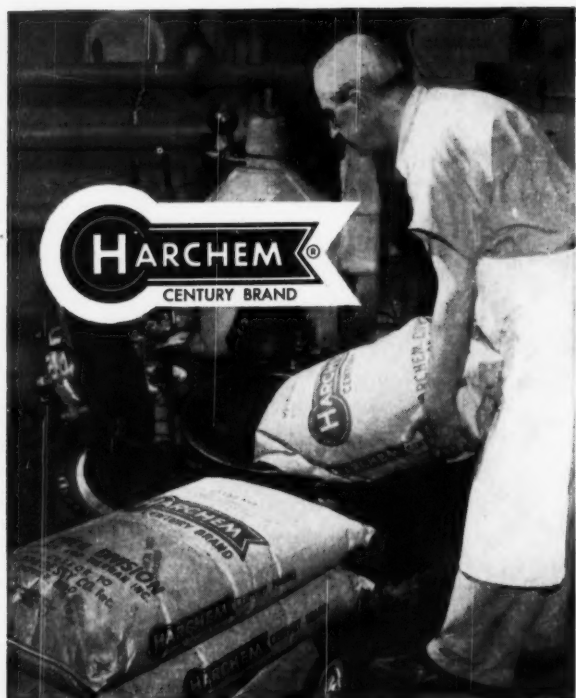
Triethanolamine is used as the basis of a popular suntan lotion, "Sea and Ski," which will be marketed internationally, it was announced recently. The product uses a triethanolamine-based emulsion as the basis for its suntan lotion, which the manufacturer, Rolley, Inc., claims, gives excellent protection against sunburn before exposure or, after burning, it is said to have a soothing action and a healing effect.

The emulsion, which has a creamy appearance and a non-oily feel, is formed when triethanolamine, which forms soaps with free fatty acids in direct equivalent proportions, is mixed with oleic or stearic acid, the usual requirements for emulsification being between two and four per cent triethanolamine and five to 15 per cent of oleic or stearic acid, each based on the material to be emulsified.

New Hard Water Treatment

United Chemical Corp. of New Mexico, Hobbs, N. M., has announced a new product for the prevention or removal of hard water scale in pipes, valves, tanks, cooling towers, evaporators, boilers, heat exchangers, etc. The product, called "Ke-Tone," is claimed to be both effective and economical in the treatment of water in large quantities.

"Ke-Tone" is added to water at the rate of one pound per 200,000 grains of contained water hardness or from 3 to 5 ppm, whichever gives the highest concentration of treating agent. After treatment, a daily check shows a gradual rise in hardness due to scale already deposited disintegrating or going back into solution. Continuous or frequent blowdowns keep the hardness at reasonable levels and when the system is free of scale, the hardness will return to its initial value.



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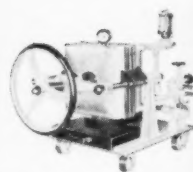
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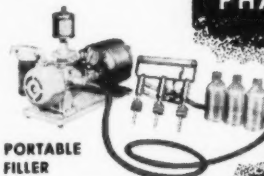
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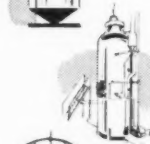
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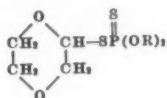
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NEW Patents

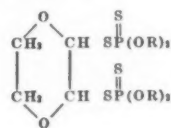
The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication. Complete copies may be obtained by writing to the publisher of this magazine, Mac Nair-Dorland Co., 254 W. 31st Street, New York 1, N. Y., and remitting 50c for each copy desired. For orders received from outside of the United States the cost will be \$1.00 per copy.

No. 2,725,327. Pesticidal Composition Containing 2-P-Dioxanethiol S - (O,O - Dialkylphosphorodithioate) patented by William R. Diveley, Newark, Del., assignor to Hercules Powder Company, Wilmington, Del. The patent covers as a new composition of matter a compound of the formula



in which each R represents a lower alkyl radical.

No. 2,725,328. 2,3 - P - Dioxanedithiol - S,S - Bis(O,O - Dialkylphosphorodithioate), patented by William R. Diveley, Newark and Arthur D. Lohr, Wilmington, Del., assignors to Hercules Powder Company, Wilmington, Del. The patent describes as a new composition of matter a compound of the formula



in which each R represents a lower alkyl radical.

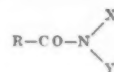
No. 2,730,503. Detergent and Brightening Composition, patented by Samuel Pressner, Richmond, Va. A detergent and whitening composition is described for materials composed of nitrogenous fibers comprising an amino-coumarin compound selected from the group consisting of a di-lower-alkylamino-coumarin and a di-lower-alkylamino-coumarin having a lower-alkyl nuclear substituent, said amino group being attached to the benzene nucleus and the alkyl groups attached to the amino nitrogen being selected from the group consisting of methyl and ethyl, said coumarin compound exhibiting blue to violet fluorescence and being insoluble in water, dispersed in water containing a non-

ionic, surface-active agent consisting essentially of a polyethylene glycol ether of an alkyl phenol wherein the number of oxyethylene groups are so related to the size of the alkyl radical as to confer water solubility to said compound, the amino-coumarin compound being present in an amount of at least about 2% by weight of said non-ionic, surface-active agent and sufficient to produce fluorescence on the material being treated, said non-ionic, surface-active agent being sufficient to maintain the amino-coumarin in clear solution and to distribute it substantially uniformly on the material being treated.

No. 2,733,212. Hair Shampoo, patented by Solomon Epstein, Chicago, Charles F. Fuchs, Evanston, and Martell M. Gladstone, Chicago, Ill., assignors, by mesne assignments, to Emulsol Chemical Corporation, Chicago, Ill. The patent discloses an improved shampoo, having a liquid to paste consistency, comprising essentially a mixture of at least one detergent selected from the group consisting of: (1) water-soluble salts of sulfuric acid esters of aliphatic alcohols containing from 8 to 18 carbon atoms; (2) water-soluble salts of sulfuric acid esters of aliphatic polyhydric alcohols incompletely esterified with fatty acids containing from 8 to 22 carbon atoms; (3) water-soluble salts of alkylated aromatic sulfonic acids wherein the alkyl group contains a chain of from 8 to 22 carbon atoms; (4) water-soluble salts of higher molecular weight alkylated aromatic hydroxy-alkyl sulfuric acid esters wherein the higher molecular weight alkyl radical contains from 8 to 22 carbon atoms; (5) sulfonated castor oil; (6) condensation products of hydroxy-alkyl amines with fatty acids containing from 8 to 18 carbon atoms and wherein the molar ratio of the hydroxy-alkyl amine to the fatty acid is not substantially less than 2 to 1; (7) polyoxyalkylene glycol ethers of alkylated aromatic compounds in which the nuclear alkyl group contains from 8 to 18 carbon atoms; and (8) liquid water-soluble soaps; said detergent comprising from about 8% to about 30%, by weight, of said shampoo; from about 1% to about 6%, by weight of said shampoo, of an ester-amide of an hydroxy-alkyl primary amine with a normally solid higher molecular weight fatty acid; and water, the water being present in amounts not substantially below 50%, by weight, of said shampoo.

No. 2,733,213. Synthetic Detergent Compositions, patented by Peter T. Vitale and Muriel Eileen Liftin, Brooklyn, N. Y., assignors to Colgate-Palmolive Company, Jersey City, N. J. The detergent composition covered here comprises about 10 to 50% of detergent selected from the group consisting of water-soluble sulfated and sulfonated aliphatic acyl-containing detergent salts wherein the acyl radical has about 8 to 22 carbon atoms, in minor proportion to said de-

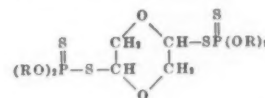
tergent and from about 1 to about 10% of a higher aliphatic amide compound having the formula:



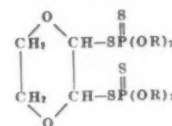
wherein R-CO is an aliphatic acyl radical of about 10 to 20 carbon atoms, and X is hydrogen and Y is selected from the group consisting of hydrogen and alkyl radicals having up to about 5 carbon atoms, and the balance being primarily water-soluble inorganic builder salts with about 20% to about 50% tripolyphosphate salt selected from the group consisting of alkali metal and ammonium tripolyphosphate, the above amounts being by weight of total solids of said detergent composition.

No. 2,733,211. Impregnated Scouring Pad, patented by William J. Maxey, Easton, Pa., and Herbert L. Sanders, Phillipsburg, N. J., assignors to General Aniline & Film Corporation, New York. The improved scouring pad described in this patent comprises steel wool impregnated with a soap-free mixture of 150 parts by weight of the sodium salt of oleic isethionate and 850 parts by weight of corn dextrin.

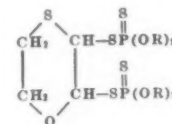
Nos. 2,725,329 through 331. Pesticidal Compositions, patented by Albert H. Haubein, Christiana, Del., assignor to Hercules Powder Co., Wilmington, Del. No. 2,725,329 covers a pesticidal composition containing 2,5-P-Dioxanedithiol S,S-Bis(O,O-Dialkyl Phosphorodithioate) and discloses as a new composition of matter a compound of the formula



in which each R represents a lower alkyl radical. No. 2,725,330 covers a pesticidal composition containing 2,3-P-Dioxanedithiol S,S-Bis(phosphorodithioates) of halogenated alcohols, and describes as a new composition of matter a compound of the formula



in which each R represents a haloalkyl radical having 1-4 carbon atoms. No. 2,725,331 covers 2,3-Thioxanedithiol S,S - (O,O - Dialkyl Phosphorodithioates) and use as insecticides, a compound of the formula



in which each R represents a radical of the group consisting of lower alkyl and chloro lower alkyl and a pesticidal composition comprising the compound and an insecticidal adjuvant.

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- Sodium Metasilicate
- Silicate of soda
- Silicate of potash
- Trisodium phosphate
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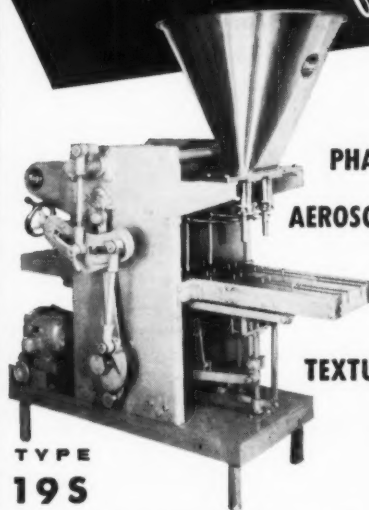
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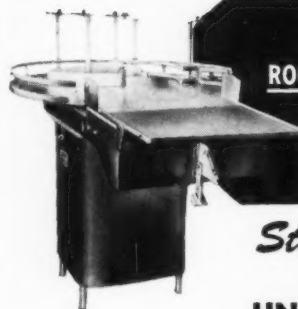
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SOAP and CHEMICAL SPECIALTIES

PRODUCTION *Clinic*

By **E. G. Thomssen, Ph.D.**

OLDER men who have been associated with the chemical specialties industry for the past decade or two are more likely to be aware of the major technological and marketing advances made in this swiftly changing field than newcomers. These kaleidoscopic changes in specialties include not only the improvement of standard items, but also the introduction of a whole new group of specialties. New and better packaging and package-filling techniques have also been quickly adopted for many specialties.

It does not tax one's memory greatly to recall the "early" days of the industry when insecticides were largely dependent upon a few botanicals and chemical type toxicants. Effective synthetic organics were unknown and not adopted until comparatively recently. Detergents consisted of a few standard type soaps and mild alkalis. Disinfectants were made from odoriferous coal tars and phenols. Aerosols were not even conceived of. The principal concern of most liquid type spray manufacturers was the development of a better sprayer. These, of course, are but a few observations made on the chemical specialties industry and its products as they existed a brief twenty years ago.

Today, the main emphasis in the development of chemical specialties is on the new. Novel products, generally designed to perform three and sometimes four separate functions, in new and different packages, seem to hold a great appeal for the housewife and even the industrial or institutional consumer. While much progress has been made in the manufacture and marketing of new specialties in this "the age of chemistry," the debt the industry owes its pioneers should not be forgotten. The deprecation of early products, which are the foundations

upon which the present-day industry is built, is definitely unfair. On the other hand, established companies should not become too preoccupied with the success of their older products and thus lag behind in adopting new methods and new materials to make new and improved specialties. The emphasis on the new carries with it the necessity of instituting or expanding research efforts and expenditures.

Because the chemical specialties industry is made up preponderantly of small companies—many of whom make only a small percentage of the items they sell—the cost of research presents a real problem. For this reason one often hears the complaint from smaller firms that they are limited by finances, laboratory equipment and personnel in doing research. Some fail to realize that research in any branch of the chemical industry today is as essential as production, management, sales or advertising. And while larger companies can afford to spend more research dollars, this gives them no assurance that someone else working in a much smaller laboratory cannot come up with a new idea that can result in better products than they are now making. There is no monopoly in brains. Many of the biggest discoveries in

chemistry and other sciences have been made by technicians working under what might be termed "adverse conditions" in small laboratories. Research is a many sided undertaking and even the smallest companies must consider some phase of it if they are to grow or even exist.

Before engaging in research, the specialties manufacturer should decide first what the objective(s) of such a program might be. There are five possible lines it might follow:

1. The reduction of costs by improving older or developing new methods of processing.
- 2.) The development of new uses for products presently being manufactured.
- 3.) The improvement of the quality of existing products. This includes not only the finished product itself, but also pertains to its packaging and label. It is very unusual to have a product which is not susceptible of improvement.
- 4.) The development of new products.
- 5.) Original research, the goal of which is to produce fundamental, new basic information about products and processes.

It is true that all companies cannot carry on research in all five ways. It is a fact, however, that the first three types of research can be carried out by even the smallest firms. Many small companies who have been aggressive in their research efforts, even thought limited, have increased their volume year by year until they are in a position to do all five of the types of research outlined above.

It does not require expensive laboratory equipment, nor even a group of trained scientists to work out methods to reduce processing costs, develop new uses for existing products or to improve them. A great deal of valuable information can be obtained from trade journals and scientific publications. Many informative brochures, pamphlets and technical bulletins are available from suppliers of chemicals, machin-

Dr. E. G. Thomssen



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ery and packaging materials that can be helpful and yet are virtually free. This information can be put to good use by research minded men.

The development of new products is but another step in the same direction. Here, again, data on new chemicals and details on new processing methods for using them are easily available. In most cases, all that is required is the initiative to study and adapt the information to a particular product in laboratory or pilot plant experiments.

To carry on aggressive, basic research, seeking new and fundamental scientific results, requires a considerable outlay for trained personnel, laboratory space and equipment and other expenses. Because of this, fundamental research activities are usually confined to those engaged in by government, the research laboratories of large companies, or by privately endowed independent or college and university research groups. The amazing results achieved in the field of fundamental research in chemistry and other sciences are constantly being publicized. Here we are not concerned so much with this type of research. It is well to remember, however, that many of the chemical companies who are leaders in basic research began their programs on a modest scale. The growth of these companies is directly attributable to their research efforts, although it should be borne in mind also that as in many other fields of endeavor you hear about the successes, while the failures are quietly forgotten.

It is still quite possible for the small company, and especially in the chemical specialties field, to develop new products which will bring them to the summit of large volume if they initiate some type of fundamental research, even if only in a limited way.

New Solvent Thickener

A THICKENER, designated "Kelube," for use with organic solvents is now available from Kelco Co., New York. The viscosity of such solvents as glycerine,

propylene glycol and ethylene glycol, among others, can be readily increased by small additions of "Kelube," the manufacture states. The product has value in making finished products such as liquid detergents, emulsions, pastes and creams.

Steam Generator

A COMPACT, portable, electric steam generator, made in a number of sizes, for use in laboratory and pilot plant operations is now available from Automatic Steam Products Co., New York. The unit can supply high or low pressure steam where needed in experimental operations.

Philadelphia Quartz 125

PHILADELPHIA Quartz Co., Philadelphia, whose 125th anniversary is the subject of a feature article in the March issue of *Soap & Chemical Specialties* has introduced and patented many new silicates and their applications in the detergent and related fields during its long, constructive contributions to silicate detergent knowledge. Interestingly enough, the firm began as a soap and candle producer in 1831, starting the production of silicates 25 years later. Since

1904 the company's interests have been exclusively in the silicate field. Hats off to this fine old chemical firm! May they celebrate another 125 years of making contributions and improvements in detergent qualities of soaps and other cleaners.

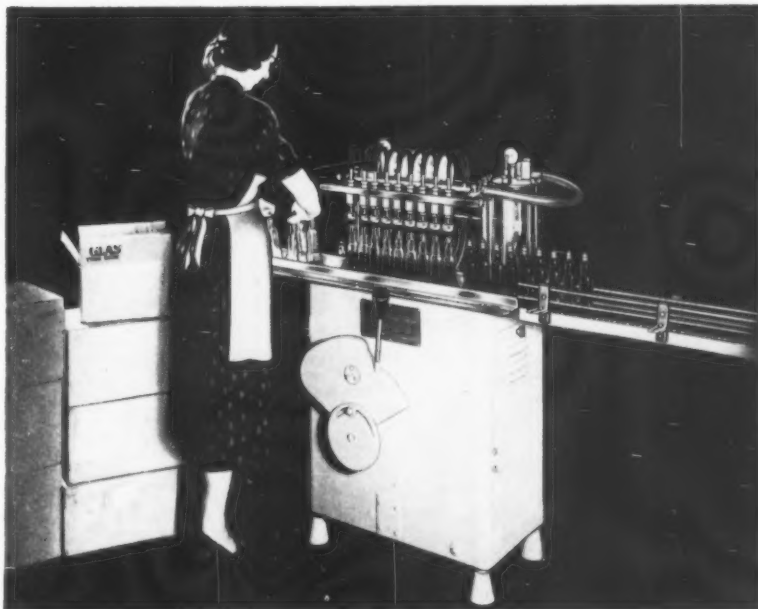
Truck Leveler

ROTARY Lift Co., Memphis, Tenn., is currently making a truck leveler that may be easily installed in new or old buildings. The device may be installed in the driveway in front of the loading platform, thus leaving the entire platform free of obstruction. The leveler has a capacity of 40,000 pounds, 24 inch travel. It has a raised center curb to guide the truck wheels and operates quickly by the use of a hydraulic electric power unit. A new catalog, giving full details, is available on request.

Fiberglass Windows

FLAT, fiberglass panels for factory windows are currently being featured by Alsynite Co., San Diego, Calif. These unbreakable panes are easy to install. They come in standard sash sizes, fit wood or metal frames and may easily be cut to any standard size. They are also

Model B-49 straightline vacuum filler of U.S. Bottlers Machinery Co., Chicago, is now available with control parts of plastic construction.



available in colors such as rose, green or blue.

Patching Material

AN instant-setting floor patching material for broken factory floors is handled by Flexrock Co., Philadelphia. The material is formulated with plastic which binds to concrete. A feature is its toughness, and even thin layers last for a long time. The material is claimed by the manufacturer not to crack or

crumble. It may also be used to completely overlay old floors. A brochure with full details may be had upon request.

Filler with Plastic Parts

Its Model B-49 straightline vacuum filler is now available on special order with control parts of plastic construction, it was announced recently by U. S. Bottlers Machinery Co., Chicago. The semi-automatic multiple filler for liquids

and semi-solids is built as standard with stainless steel contact parts. With the new plastic construction it can handle such products as sodium hypochlorite solutions, etc. A bulletin on the new unit is available from U. S. Bottlers Machinery Co., 4015 N. Rockwell St., Chicago 18. (See cut page 93.)

Dow Aromatic Guide

A new edition of its aromatic chemicals catalog is now available, it was announced recently by Dow Chemical Co., Midland, Mich. The new edition is provided with a new format which is pocket-size. It bears the title, "Handy Reference Guide to Aromatic Chemicals." Finger-tip information is provided to research directors, laboratory technicians, purchasing agents, salesmen and those interested in the product development and sale of soaps and chemical specialties, soap and synthetic detergent fragrances, tooth paste, aerosols, floor waxes and polishes, fly sprays, industrial masks, reodorants and correctives.

The guide gives product descriptions, chemical properties and specifications, use information and price and shipping data. Copies are available from the aromatic sales department of Dow, Midland, Mich.

Soda Ash Book

A new 42-page book on the subject of soda ash has been published recently by Westvaco Chlor-Alkali Division of Food Machinery and Chemical Corp., New York. In addition to general information, the book contains specifications, handling data, various charts, and technical data in tabular form.

Swiss Soaper Tours U. S.

Ultra Chemical Works, Inc., Paterson, N. J., recently reported a visit by George Strauli, plant manager of Strauli & Co., Winterthur, Switzerland. One of the oldest soap makers in Switzerland, his firm also manufactures detergents, glycerine, red oil, textile soaps and textile auxiliaries.

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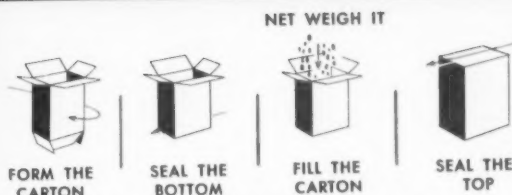
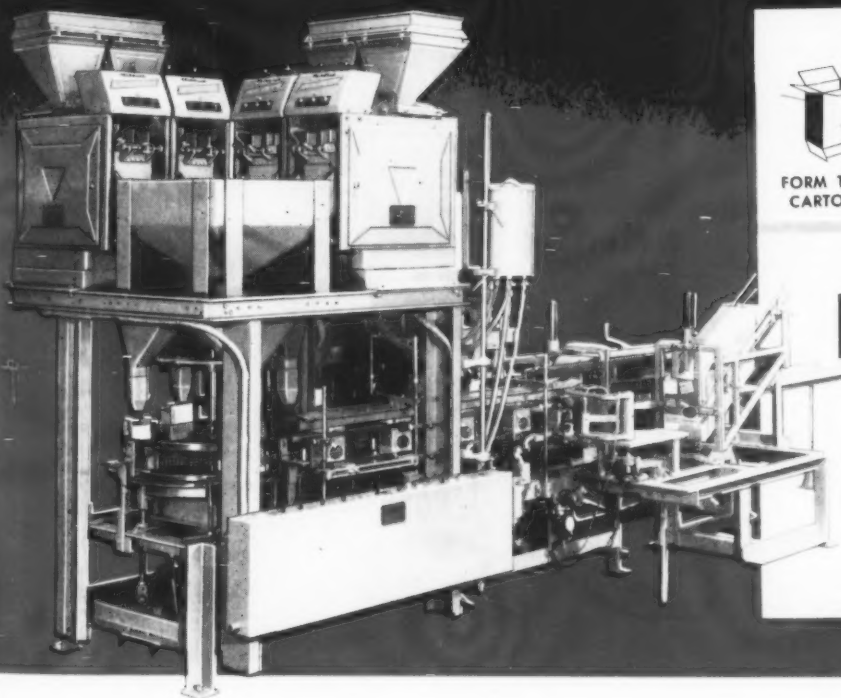
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IT'S PRICED FOR PROFIT. Flexi-Matic incorporates operations and fully automatic features that you won't find on similar machines at twice the price. They're features that can mean quick profit and a real competitive advantage for even the smallest carton operation. Fill out the coupon for details on the Triangle FLEXI-MATIC today!

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Since 1923:

Weighers, Fillers, Powder Packers, Carton Sealers, Wrapping Machines, Bag Makers

TRIANGLE PACKAGE MACHINERY CO.

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WRITE FOR NEW FOLDER

TRIANGLE PACKAGE MACHINERY COMPANY
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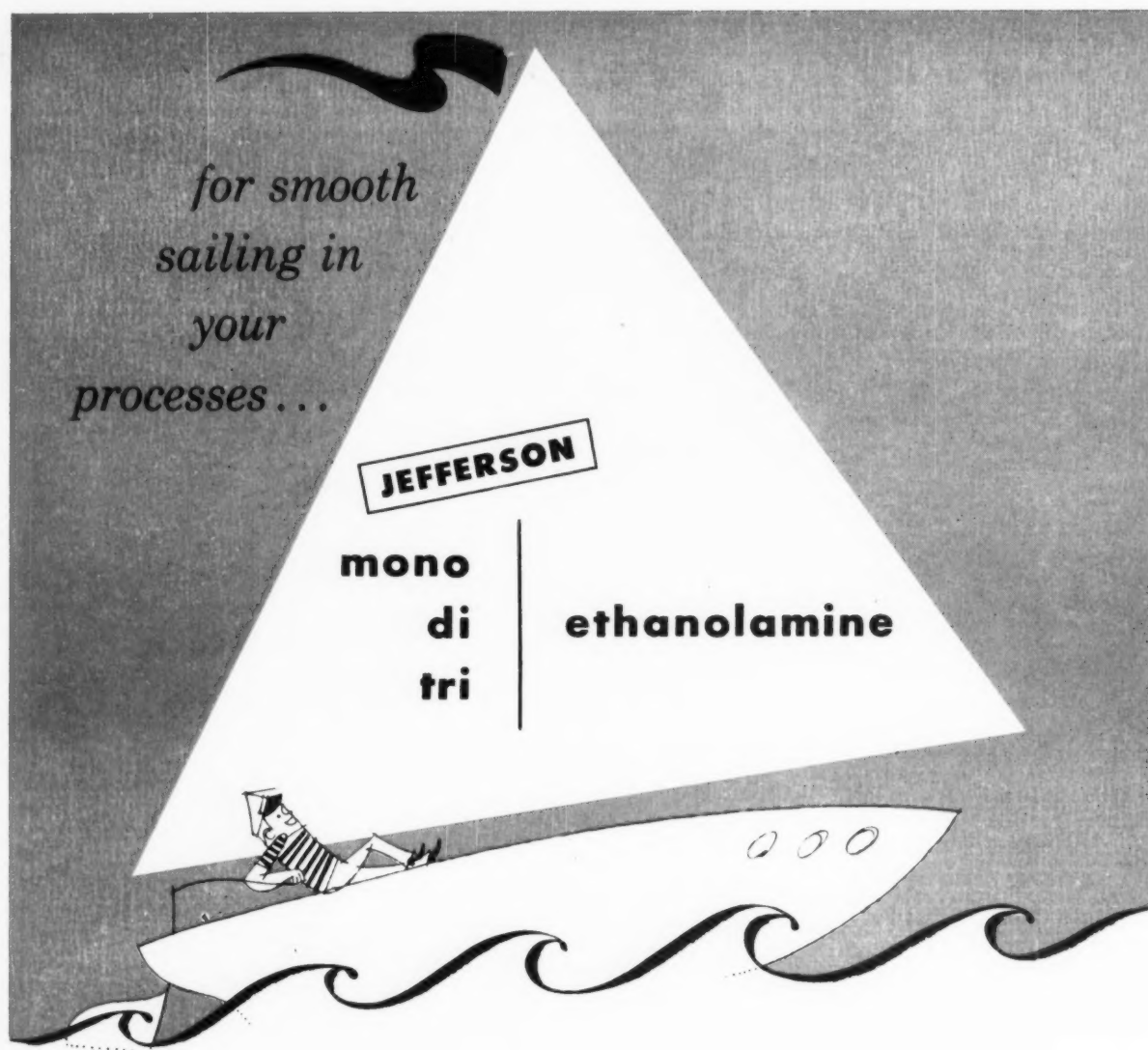
Please send bulletin on the new FLEXI-MATIC filler:

Company _____

Address _____

City _____ Zone _____ State _____

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Because of their surface-active properties, ethanolamine-fatty acid soaps are finding wide use in emulsifiers and detergents.

Certain monoethanolamine derivatives have found large use in the textile industry; others as organic builders for synthetic detergents and shampoo additives.

Diethanolamine reacts with fatty acids to form a complex mixture containing the diethanolamides, as well as free diethanolamine, free acids, and possibly diethanoldipiperazine and its derivatives. This mixture is an excellent detergent.

Triethanolamine soaps, commonly oleate and

stearate, have very good properties in solution and are widely used with organic solvents.

For detailed information on chemical reactions of mono, di, and triethanolamine, contact your nearest Jefferson office or write for technical bulletin. **Jefferson Chemical Company, Inc., Box 303, Houston 1, Texas.**

Essential Chemicals from Hydrocarbon Sources

Jefferson
CHEMICAL COMPANY, INC.



HOUSTON • NEW YORK • CHICAGO • CHARLOTTE • LOS ANGELES

SOAP PLANT *Observer*

By John W. McCutcheon

THE analysis of detergents was commented on in this column a few months ago (February, Page 81). The first examination of a material is general, then comes specific testing, it was pointed out at that time.

One type of test to which a client drew the writer's attention not long ago was the technique of gas-liquid partition chromatography. This appears to the writer to be little short of sensational. Just how it fits into the detergent picture is not known but it is bound to have a useful place. Already one of the large Government regional laboratories has a machine on order.

But first, let us explain what the equipment is! For this the reader is referred to an article in the March 1956 issue of *Industrial Laboratories*, Page 32. The article describes briefly a few fundamental points on the process as developed by Gulf Oil Corp., 719 Gulf Bldg., Pittsburgh, Pa. It is stated that arrangements are being made with Fisher Scientific Co., Pittsburgh, to make the equipment available.

However, it appears that someone has beaten Fisher to the punch as I have before me a bulletin, "Reco-Distillograph," of Research Equipment Corp., 1135 Third Street, Oakland, Calif., which describes essentially the same fundamental equipment.

There are some important differences to be noted, chiefly with respect to operating temperatures, but this can be expected! The principle of operation is as follows. A minute amount of the unknown liquid is injected by hypodermic needle into the base of a wet packed column coiled in a furnace. The liquid is propelled along by means of an inert gas such as helium and is subjected to chromatographic separation. Each fraction is detected at the end of the column by means of a recording thermal conductivity



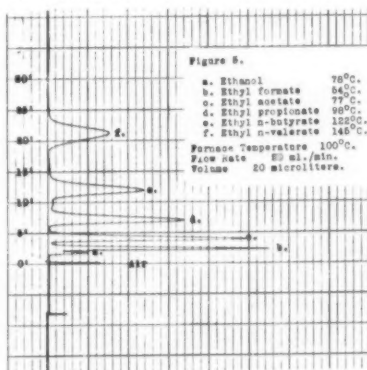
cell and identified on the basis of transit time through the tube.

The Reco Bulletin gives a few specific details which may help in the evaluation. In the first place, the price of Model D-1000 is \$850.00 delivered. The principal difference is the inclusion of a Leeds & Northrup Model S Speedomax type H Strip Chart Recorder. The chart width is six inches and the speed of the chart six inches per hour.

The eleven features of the equipment as given in this bulletin are very interesting and are given verbatim below.

"1. Has an efficiency of approximately 2000 theoretical plates.

Fig. 1. Normal ethyl esters C_2 to C_7 separated in 25 minutes at 100°C . The small peak just following the air peak is caused by a trace of ethanol in the test mixture.



- "2. Separates mixtures of volatile organic compounds in a matter of minutes.
- "3. Each purified component can be recovered quantitatively.
- "4. A permanent record is made for any separation—each purified component appearing as an individual peak.
- "5. A quantitative measurement of the amounts of each substance can be made from the area under each peak.
- "6. Operates on 2 to 200 milligrams of material.
- "7. Covers a boiling point range of 0 degrees centigrade to 350 degrees centigrade for liquids.
- "8. Boiling points of unknown substances can be approximated by calibration with known materials. The vexing problem of azeotrope formation has probably been completely eliminated. Each component of all azeotropic mixtures tried has been completely separated.
- "9. Will separate materials 125 degrees centigrade below their boiling points.
- "10. Separations are carried out in an inert atmosphere.
- "11. Apparatus is self-cleaning. As soon as one separation has been made the Distillograph is ready for another sample."

The Distillograph Strip Chart Recorder is illustrated in the Reco Bulletin. A chart, Figure 1, covers the separation of normal ethyl esters of C_2 to C_7 . It is to be noted that the products are not subject to distillation. The esters above were separated at a constant column temperature of 100°C although the actual boiling points range from a low of 54°C to a high of 145°C . The separation can be made on materials having a boiling range of 0 to 350°C , see features 7 and 9 above.

In discussing this with a friend recently, he pointed out that the range of useful separation was restricted to compounds boiling below 200°C . There is a difference in this respect between the equipment

ALPHA METHYL CINNAMIC ALDEHYDE

Typical Specifications:

PHYSICAL APPEARANCE:	Light yellow liquid.
ODOR TYPE:	Cinnamon, Cassia.
SOLUBILITY:	10 parts soluble in 12 parts of 80% Ethyl Alcohol.
STABILITY:	Stable in presence of alkalies—of excellent lasting quality.
REFRACTIVE INDEX $n_{\frac{20}{D}}$:	1.6040
SPECIFIC GRAVITY $\frac{20}{20}$:	1.036
QUALITY:	Carefully produced to rigid specifications and checked in our modern control laboratories.
SUGGESTED USES:	A notable and successful raw material for the production of OIL CASSIA SYNTHETIC.

Investigate these additional VERONA specialties:

CYCLAMAL • DIMETHYL OCTANOL SPECIAL
RESEDALIA • VERONOL • ROSANOL

Sole representative in the United States for J. & E. Sozio, Grasse, France
Resinoides Essential Oils Natural Absolutes

Write us for our complete list of specialties and other aromatic chemicals.

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PRODUCTS BUILD SALES FOR *Your* **PRODUCTS**

Aromatics Division

VERONA CHEMICAL COMPANY

Plant and Main Office: 26 Verona Avenue, Newark, N. J.
1210 Rosedale Avenue, Chicago, Ill.

described in *Industrial Laboratories* and the "Reco Distillograph." A top furnace temperature of 150°C. is mentioned in the former and 200°C. in the latter. This may not mean very much, however, in the way of fundamental differences. The quantitative condensation of the micro samples is handled by means of a small glass adapter tube chilled to -70°C or so by means of a dry ice-alcohol mixture and the product emerges into a 2 ml. centrifuge tube. This equipment is standard for both Reco models.

It appears to the writer that this equipment would fit very nicely into the organic separations of many detergents. These are quite complex, but for purposes of product control a means of quickly identifying the ratios of the various fractions would be very useful. For unknown products it would serve equally well, since micro techniques have been developed which make it very easy to identify the class of compound involved. By using controlled boiling point charts, the product could be pin-pointed in a manner not possible up to this point, except by means of long drawn out fractionations. On the basis of 200 theoretical plates, it should be possible to separate oleic from stearic since their boiling points are about 2° to 3° apart. In this connection an interesting point arises. Neither of these acids can be distilled under normal pressures without decomposition. However, the extrapolated boiling point of stearic acid at normal pressures, according to Ralston (*Fatty Acids and Their Derivatives*, P387, John Wiley & Sons, Inc., New York) is 276.1° not too far over the top limit of 350° mentioned under* Feature 7. Palmitic acid, at 351.5° would probably be safe. Again, we must keep in mind that the apparatus does not cause distillation. No doubt time will settle these points one way or another. Although not mentioned in the literature read so far, it seems to the writer that this equipment would be a "natural" with an infra red spectrophotometer. Some-

thing like ham with eggs, or cheese with pie.

THE new heavy duty liquid detergents* appear to be the "hot-test," thing out. The idea of solubilizing the inorganic salts by hydrotropic materials was certainly a fine one. It could spell the beginning of the end of powdered products. By the way, the solubilizing agents for this purpose may be lying in your own backyard. Better check. I know of one "innocent" just uncovered!

MENTION was made concerning fluoro compounds as a detergent base some time ago. A professor in Florida was involved but if memory serves me right we couldn't squeeze out a drop of real factual information that could spell any interest to the detergent manufacturer. The point comes up again, however. An export-import firm wants to know where such fluorine based detergents can be bought. Would some kind reader please send help?

THE first issue of *Tensio-Actives*, a monthly magazine devoted to surface active agents has just come to hand from Paris, annual subscription price 3,500 francs (\$10.00). The first issue (February '56) has 36 pages and seems to be quite informative.

Phosphate Data File

A file of information on the use of its phosphates in detergents and soaps was announced recently by Victor Chemical Works, Chicago. Designed the "Victafile," the file covers solubility, dispersion qualities, pH range, stability, softening properties, granulation, purity, etc. Complete with graphs on tetra- and tripolyphosphates, the file also includes data sheets on all the other phosphates used in the production of synthetic detergents and soaps. Copies are available free from Victor at 155 N. Wacker Drive, Chicago 6, Ill.

* "Gee"—Armour & Co., Chicago.

"Wisk"—Lever Brothers Co., New York.

Abstracts on Brighteners

A nine-page booklet of bibliographical abstracts on evaluation of brightening agents for detergent usage was published recently by the American Society for Testing Materials, Philadelphia. Prepared by Lloyd E. Weeks, Monsanto Chemical Co., Dayton, O., the bibliography includes 37 titles and abstracts. Mr. Weeks is a member of subcommittee T-5 on physical testing of ASTM Committee D-12 on Soaps and Other Detergents. Copies of the booklet are available from the society headquarters at 1916 Race Street, Philadelphia 3, at \$1.50 a copy.

"Triplex" Pump Booklet

Manton-Gaulin Manufacturing Co., Everett, Mass., published recently a folder giving data on the "Gaulin" horizontal "Triplex" pump. This high pressure pump comes with five basic cylinder designs which meet the requirement of a wide range of products, including corrosive, abrasive, and volatile materials. Bulletin P-55 is available from the manufacturer at 44 Garden Street, Everett 49.

Waste Odor Control Data

Rhodia, Inc., New York, published recently a six-page brochure on the use of "Alamask" odor control chemicals in municipal and industrial sewage and waste treatment plants. The booklet deals with the abatement of malodors arising from municipal waste treatment and garbage disposal plants; from industrial wastes and exhaust gases; effluents and other sources.

New Carbide Booklet

Non-ionic surface active agents, antistatic agents, and other compounds designed for the treatment of textiles are described in a new 26-page technical booklet published recently by the Carbide and Carbon Chemicals Co., New York. For each of the textile chemical specialties the booklet gives properties, and range and mode of application.

"Another product safely shipped in Inland 'protection-eered'* Containers"



WELL-DRESSED FOR DIRTY WORK

Recently the DIVERSEY CORP. of Chicago introduced its new liquid detergent "TIG". But before "TIG" made its bow, there was a packaging problem that had to be solved from the inside out.

Diversey's chemists specified a steel pail with a lining that would prevent discoloration or contamination of this highly concentrated new detergent.

The sales department wanted a trim, convenient package with an attractive exterior, one that would register strong brand identification.

Inland took it from there. Our container "protec-

tioning" specialists developed a baked-on lining that tested out perfectly. Our design and lithography experts created a colorful exterior for the pail. "TIG" hit the market on schedule, all dressed up in the colorful new package as handsome as it is functional.

Now . . . ABOUT YOUR PRODUCT. Could the *right* container lining solve your problem of maintaining quality-in-transit? Would a more attractive container help increase sales? Chances are the steel packaging by Inland can give you just what you need. The full story is well worth your time. Write Bob Boecher, Dept. 314D.

**the right container, with the right lining for your product*



"It's Better to Ship in Steel"

INLAND STEEL CONTAINER COMPANY

Division of Inland Steel Company • 6532 South Menard Avenue • Chicago 38, Illinois • Plants: Chicago, Jersey City, New Orleans, Cleveland and Greenville, Ohio
Full line of steel and stainless steel shipping containers, including galvanized and heavy duty ICC drums.

Packaging...

AEROSOLS • LIQUIDS • PASTES • POWDERS

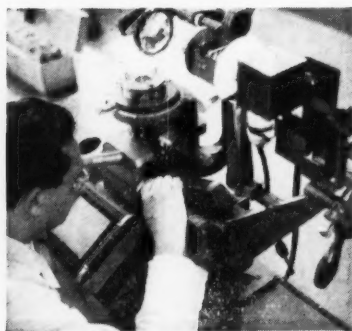
"Dial" shampoo in seven-ounce glass bottle introduced nationally recently by Armour & Co., Chicago, supplements its three sizes in polyethylene bottles. Oval bottle carries vertical ribbing to provide a safer hand-grip. Front label in applied colors of brown and white; back label, also in applied colors, carries use instructions. Package is topped with vertical ribbed plastic closure in salmon-pink complementing product's amber color. Owens Illinois Glass Co., Toledo, supplies bottles and closures. Package designer: Dickens, Inc., Chicago.

Automotive
Chemicals
Cleaners
Detergents
Deodorants
Disinfectants
Floor Products
Insecticides
Laundry Bleach
Metal Cleaners
Moth Products
Polishes
Shampoos
Shave Products
Soaps
Liquid Starch
Toiletries
and other
Chemical Specialties

*A market for over 20
billion packages annually*

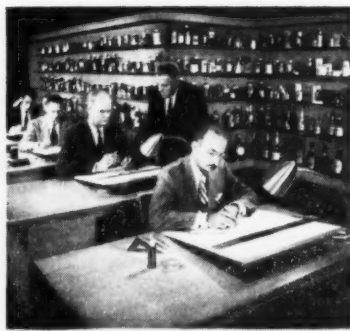


OWENS-ILLINOIS ASSURES YOU A



Co-ordinated Research

Pure research into formulae and fabrication of glass, *packaging research* into processing and handling methods in customer plants, and *market research* into consumer attitudes, add up to greater specific value for your packaging dollar.



Engineered Design

The package that takes your product to market must take *three* needs into account. Considerations of its function in the retail store, its operating efficiency and its consumer utility all become a part of the prescription for an Owens-Illinois package.



The Right Container

Facilities at Owens-Illinois are versatile. Talents are varied and many. So you can count on obtaining a container exactly suited to your needs—one that blends salesmaking beauty, product protection and utility in the proportions required to attract customers.

Air Freshener or Disinfectant—



COMPLETE PACKAGING APPROACH



The Right Closure

Know-how as to the best available liner and closure—best for packing, displaying, or using a specific product—may well be one of the most important single points through which expert packaging counsel will reward you many times over.



Needed Fitments

With emphasis on the word "needed," Owens-Illinois specialists are keenly aware of sales benefits possible through use of plastic shaker and pour-out fitments which are not "gadgets" but which increase consumer satisfaction with your product.



Merchandising Cartons

Modern cartons are developed only through systematic consideration of their opportunity to serve you in the retail store and retail warehouse as well as on your own filling line and in transit. Owens-Illinois is pioneering such developments.

help yourself to sales...



*with an Owens-Illinois
package that sells through
convenience in use*

IMPULSE BUYING plus product recognition is largely responsible for the record increase in store sales.

Marketing your product in a well-designed and engineered glass container puts your merchandise up front in the sales parade.

Glass can be designed and molded into a salespackage to catch the customer's eye in advertising campaigns as well as in the store where sales are made. Glass also is an

efficient salesman when it comes to convenience and product protection. The quality of the contents is maintained throughout many openings and closings. The housewife can readily see how much she has left.

Skilled packaging designers at Owens-Illinois will gladly help you create a sales-making label and closure combination for your product. There are hundreds of different sizes, styles and shapes of stock-model bottles from which you can choose.

DURAGLAS CONTAINERS
AN **①** PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO



The J&L line includes all types of Closures and Finishes. Bright, colorful decorations may be reproduced to your specifications. Heavy-duty ICC Drums. Light-gauge Drums. 55, 30 and 15 gal. capacity and 100-lb. Grease Drums. Lightweight Drums for Chemical and Powdered Materials. 1-10 gal. capacity Steel Pails for Foods, Chemicals, Oils.



FOR TOUGHNESS

... when the going is tough
J & L STEEL CONTAINERS
CAN TAKE IT.

J&L Steel Drums and Pails meet the most rigid tests for durability because:

- 1 J&L Drums and Pails are made from high quality J&L Steel Sheet.
- 2 J&L Drums and Pails are made with care and accuracy in every detail.

You can obtain J&L Steel Drums and Pails through plants located in leading industrial centers. You'll find J&L service fast and efficient. Call the J&L office serving your community.

Jones & Laughlin

STEEL CORPORATION — *Pittsburgh*

CONTAINER DIVISION

405 Lexington Ave., New York 17, New York

Bottled up by a design



problem?



**LET MARYLAND GLASS DESIGN
A BLUE OR FLINT GLASS CONTAINER
FOR YOUR EXCLUSIVE USE**

Sure, we make bottles and jars. But, more important to you, we design them. Our creative staff has the experience, the skill, the imagination to help you successfully redesign your old package or develop a new one. We've proved this many times.

Now we would like to prove to you that we can design a container that will sell your product. If you have a design problem, get in touch with us. No obligation, of course. Maryland Glass Corp., 2147-53 Wicomico St., Baltimore 30, Md.

PACK TO ATTRACT IN

**MARYLAND
GLASS** | **BLUE OR FLINT
JARS AND BOTTLES**

STOCK DESIGNS—

A variety in blue or flint glass and a complete range of sizes is ready for immediate shipment.



PRIVATE LABEL AEROSOLS

...if you have an aerosol product
...if you have an aerosol project
...if you have an aerosol problem



- Aerosol filling by refrigeration or pressure.
- Aerosol packaging in metal, plastic, and glass containers.
- Aerosols as sprays, foams, powders.
- Aerosol cosmetics, insecticides, pharmaceuticals, waxes, cleaners, polishes, household products... your new product idea.

LET G. BARR & COMPANY HELP YOU

... Tens of millions of successfully selling aerosols are custom formulated and/or filled by G. Barr & Company for many of the nation's leading concerns. These are testimonials of leadership... earned through outstanding aerosol research laboratories... creative product development... meticulous quality control... effective production economies. And... G. Barr & Company markets no products of its own.

Whether you need help in developing a new aerosol idea or in filling a current product... whether you need 1,000 units or a million per week, G. Barr & Company's three aerosol filling plants—New York, Chicago, Los Angeles, can take care of your requirements now. Three key locations to assure you of freight savings and on-schedule delivery.

Address inquiries to: 3601 S. Racine Avenue, Chicago 9, Illinois

G. BARR & COMPANY

Plants in: New York • Chicago • Los Angeles



BOSTON ROUND

1/2 oz.— 2 oz.— 4 oz.
8 oz.—16 oz.—32 oz.

OVAL

3/4 oz.—1 1/4 oz.—2 oz.
3 oz.— 4 oz.—8 oz.



CYLINDER

1 oz.—2 oz.—3 oz.
4 oz.—6 oz.—8 oz.
12 oz.

OBLONG

1 oz.—2 oz.—4 oz.—6 oz.



DESIGNS FOR

FAST DELIVERY

When you want standard shape plastic bottles *fast* — come to Continental. Our Millsplastic Division carries a large inventory of standard sizes in four popular shapes. Natural polyethylene bottles can be shipped at once, and the same molds can be used for translucent or opaque colors. Yes, Continental has the plastic bottle you need. For fast shipment call us.



CONTINENTAL  **CAN COMPANY**

MILLSPLASTIC DIVISION

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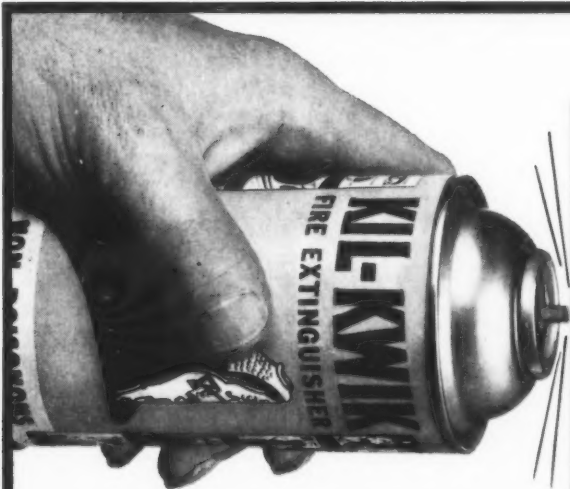
as dependable and efficient, in our own way, as Mother Nature

for contract filling all types of containers

Our sole operation is *contract filling* of containers with *your* products... liquid, pressurized or aerosol. Extensive modern facilities assure rapid service. Ample bulk storage space enables us to keep a good supply of your products available at all times. Large storage areas for packaged goods make it possible for you to use our plant as a central distribution point. The shipping department is equipped to handle orders of any size. Here's an opportunity to establish "your own" filling department without investing a penny in equipment or personnel. Write, wire or 'phone for complete details.



PETERSON *Filling and Packaging Co.*
HEGELER LANE • • • DANVILLE, ILLINOIS



FIRE FIRE FIRE

NOW! SCHRADER ONE SHOT VALVES

1

STRIKE OR PRESS TIP AGAINST HARD SURFACE . . .



2

AND AIM CAN DOWN AT BASE OF FLAMES

FOR FIRE EXTINGUISHERS

Get into the growing home fire extinguisher market *fast* with Schrader. Order the single-discharge valves you need . . . now. Absolutely non-clogging, positive action of the plastic valves makes them practical for your mass selling. Gas-tight feature of valves makes your fire extinguisher safe to store, handle. Schrader is a leading name in Aerosol valve field. Depend on Schrader for economy and good service.

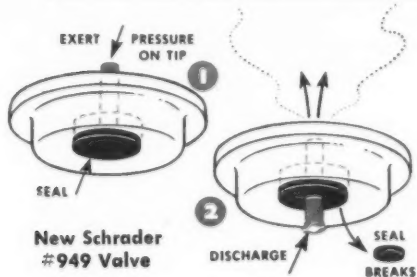
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ESTABLISHED IN 1844

AEROSOL VALVES made by the

manufacturer of the Standard Tire Valve since the first Automobile

MAIL THIS COUPON TODAY



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Please send me samples of Schrader one shot aerosol valves ☐ Price list ☐

Name _____ Title _____

Company _____

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Announcing the first **completely modern** oblong can ...
the only **solderless** can with all these features!



There's not another container on the market with *all* the features you see above. And yet every one is important if you want to market your product in a truly *modern* container.

It's another example of Canco's continuing policy of passing along to you the end result of more than fifty years' experience.

COME TO

CANCO

FIRST!

AMERICAN CAN COMPANY New York, Chicago, San Francisco

Folding Paper Box Assn. Meets

THE folding paper box industry will soon become a billion dollar a year business, Norman F. Greenway, president of the Folding Paper Box Association, predicted to the 250 members of the association at its 30th annual meeting, held Mar. 12-15, in San Francisco. Mr. Greenway is senior vice-president of Robert Gair Co., New York.

"We are well on our way to becoming a billion dollar industry," he said. "I don't know whether we will reach that goal this year, or next, but reach it we will," he asserted.

Constantly increasing demand by U. S. consumers for more and better packaging and self-service retailing of products used in every day living have been responsible for the rapid growth of the folding paper box business, Mr. Greenway declared.

It was predicted that the merchandising revolution, which carton manufacturers have spurred through the development of the packaging art, will continue to grow at an accelerated pace. This statement was made by Don Belding, chairman of the executive committee of Foote, Cone & Belding, New York advertising agency, in his keynote address before the national convention of the Folding Paper Box Association. He foresaw some supermarkets having 6000 items by 1960, as against the present top of about 5000.

"Consider what a responsibility that puts on the design and print material of your folding paper box," Mr. Belding declared. "The manufacturer must pre-sell the item through advertising before the customer gets to the store, then the package must do the reminding job."

Mr. Belding also forecast that more attention will have to be paid by designers of folding paper boxes and other packages to the clarity of design. He also said that consumer loyalty to branded mer-

chandise would be reduced and shifting of brands would be increased by growing restlessness and independence of people.

"Success of the consumer goods business will depend on the effectiveness of their pre-selling in the consumer's home through mass media, plus the effectiveness of their merchandising programs at point of sale," Mr. Belding said.

New packages for grocery products stimulate sales, it was reported in a study just completed for the Folding Paper Box Association by Don White, Inc., marketing consultants. The survey revealed that 75 percent of the manufacturers interviewed said that a new package means a big boost in sales, and more than half of those reporting went on to state that "most of all of the sales increase was due to the package."

Norman Greenway was reelected as president of the National Folding Paper Box Association. Directors reelected include:

William B. Leavens, Jr., Wilkata Folding Box Co., Kearny, N. J.; William J. Alford, III, Alford Cartons, Inc., Ridgefield Park, N. J.; W. W. Fitzhugh, Jr., William W. Fitzhugh, Inc., New York; Walter F. Daley, New Haven Board & Carton Co., New York; W. C. Palmer, National Folding Box Co., New York; William H. Walters, U. S. Printing & Lithograph Co., New York; Herbert C. Bernard, Shuttleworth Carton Co., New York; Leo H. Schoenhofen, Container Corp. of America, Chicago; A. G. Ballanger, Morris Paper

John C. Clay, program chairman of the Packaging Institute 18th annual forum committee, points out site of eighteenth annual forum of Packaging Institute to L. H. Zahn, Ciba Pharmaceutical Products, newly elected vice-chairman of the technical operations committee, which arranges the technical seminars at the annual forums. Meetings will be held at Statler Hotel, Cleveland.



Mills, Chicago; Edward J. Mulholland, Chicago Carton Co., Chicago, and Dan Int Hout, Michigan Carton Co., Chicago.

Photographs of some of the winning packages in the Folding Box Competition announced during the convention appeared in the March issue of *Soap*.

New Machines for Pack-It

Pack-It, Newark, N. J., recently announced expansion of its contract packaging facilities. The firm has installed a new "Fry" bag sealer and an additional Stokes & Smith "E.G.-1" powder filler.

Packaging Machinery Meet

"How to Do It" exhibits will be featured at the Packaging Machinery and Materials Exposition of 1956, to be held at the Public Auditorium, Cleveland, O., Sept. 11 through 14, it was announced in March. The Exposition is being sponsored by the Packaging Machinery Manufacturers Institute.

At the Exposition, the emphasis will be on technical know-how. Action exhibits will be manned by technicians who will be able to answer customers' questions about new equipment, new materials and new packaging techniques.

Simultaneously with the Exposition, the Packaging Institute will hold its 18th annual forum in Cleveland at the Hotel Statler, Sept. 10 through 12.

More than 75 percent of the 50,000 square feet of exhibit space has been contracted for by packaging machinery and materials manu-



FLUID'S
Latest achievement in
*controlled packaging**



An excitingly new member has been added to the "FLUID" family of "contract packaging"—polyethylene plastic tubes and bottles by Bradley Container Corporation.

These versatile containers include most of the advantages of glass and metal packages. In addition, they are lightweight, unbreakable, chemically inert, and are easy-to-use squeeze type dispensers.

FLUID'S modern versatile equipment now includes the latest in automatic machinery for filling and sealing of these Bradley containers.

Let FLUID'S controlled packaging methods satisfy your requirements—whether they are for liquid filling, aerosol loading, or these latest plastic tube applications.

"First in Contract Packaging"

FLUID
CHEMICAL COMPANY INC.

880 MT. PROSPECT AVE. • NEWARK, N. J.
Telephone HUMBoldt 5-2880



PRODUCTS: AEROSOLS—GLASS AND METAL
LIQUID—TUBE—JAR—DRY PACK FILLING
RESEARCH • DEVELOPMENT
FOUNDED 1921

facturers. In addition to industrial exhibits, the show will feature a government packaging exhibit and educational exhibits.

Container Board Price Up

A price increase of \$5 a ton on container board was announced in mid-March by International Paper Co., New York. The increase became effective Apr. 1. It raises the price of 42-pound liner board, major volume grade, from \$122.50 to \$127.50 per ton.

It is expected other producers will follow the action of International, one of the largest producers in the paper field, in raising the price of container board. The increase is the first of a general scope applying to all container board grades since 1953. The increase by International was attributed to higher prices for wood, transportation and other costs.

Cont'l Can Record Income

An increase of 16.6 percent in net income for 1955 was reported recently by Continental Can Co., New York. Net income after taxes amounted to \$24,172,218 in 1955, compared with \$20,736,899 in 1954. This is equivalent to \$6.44 per share on 3,664,403 shares outstanding on Dec. 31, 1955, compared with \$5.52 per share on 3,646,533 shares at the end of 1954. Sales and operating revenues totaled \$666,266,408 in 1955 against \$616,163,898 in 1954, representing an increase of eight percent.

Rheem Executive Changes

Donald L. Rheem has been elected chairman of the board of Rheem Manufacturing Co., Chicago, it was announced recently by Richard S. Rheem, president and chief executive officer. The new chairman is co-founder and was formerly executive vice-president of the company. At the same time the election of A. Lightfoot Walker as executive vice-president and Emerson S. Ronk as vice-president for administration, a new post, was announced.

OTS Releases Three Packaging Reports

THREE reports of Armed Forces research in packaging and materials handling have just been released to industry through the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C.

The report, "Evaluation and Development of Closures for Five Gallon Containers," by S. Gaines and S. Stambler, U. S. Naval Supply Research and Development Facility, is an illustrated booklet of 102 pages and sells for \$2.75. It points out that laboratory tests indicate that flange, plug and flexible spout closures are superior in pro-

tecting the contents of five gallon containers. Screw type and snap on closures were not as effective, according to the report. Despite higher comparative costs, the flexible spout closure was found the most desirable for military use, and a recommendation for a change in procurement specifications is made. Container Types V and VI, five gallon containers, Military Specification MIL-C-124B, were used in the tests.

"Cube Efficiencies of Nested and Non-nested Cylindrical Containers" is the title of another OTS report. This was prepared by J. P. Akrep and S. Stambler of the U. S. Naval Supply Research and Development Facility. The report of 41 pages is illustrated and sells for \$1.25. The research, on which the report was based, was directed primarily toward obtaining maximum cube efficiency in palletized loads. Efficiencies of nested patterns of cylindrical containers,—drums, pails and cans—were evaluated. Fourteen or more cylindrical containers were found theoretically capable of giving better cube efficiency when nested. The researchers found that cube loss can be cut in half for large pattern storage. For special cases when available space is fixed, such as railway cars and pallets, cube utilization may be improved by reducing non-nested cube losses as much as 50 percent.

Mass-Produces Drums

Mass production of steel drums in both standard type and "hi-bake" linings is now underway at Bennett Industries, Peotone, Ill., it was announced recently. This is the first volume production program of drums for Bennett, which has been making steel containers, including drums, for 45 years. S. A. Bennett, president of the firm, was one of the pioneer manufacturers of steel containers. Bennett now supplies a broad line of "hi-bake" and standard type steel containers for the chemical specialties and other industries.

S. A. Bennett, president of Bennett Industries, Peotone, Ill., stands with two steel drums his firm is now mass-producing.



The third report, "Package Safety Test for Volatile Corrosion Inhibitors," was prepared by R. K. Johnston, J. G. Schafer and L. D. McBeth of Nox-Rust Chemical Corp. for Wright Air Development Center. This 63-page report is available for \$1.75. The report indicates that when a package is assembled using volatile corrosion inhibitors to protect ferrous metal components, there is no known method at present to indicate when the protection drops below a safe level. The development of such package safety tests, which can be applied without opening and re-

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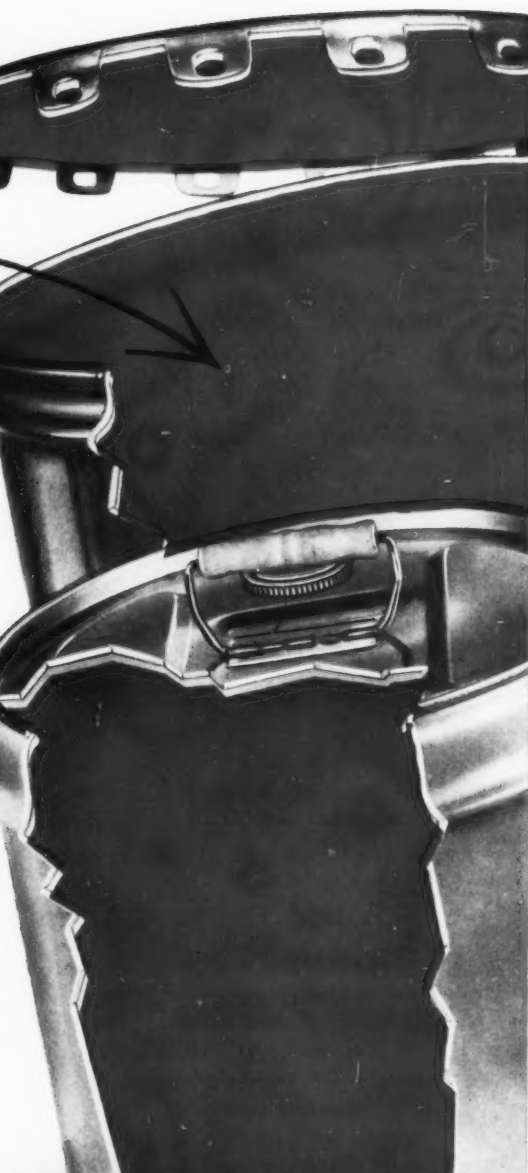
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SOAP and CHEMICAL SPECIALTIES

packaging, was the major objective of this research. The development was carried through the laboratory stage and resulted in two alternate methods, both based on a rust inhibition test of the package atmosphere. Various limits of applicability of the two methods have been determined in laboratory tests.

Can Prices to Rise

Increases, ranging from $1\frac{3}{4}$ to $3\frac{1}{2}$ percent, in the price of cans starting around May 1 were announced late in March by American Can Co. and Continental Can Co., New York. R. L. Perin, executive vice-president of Continental said this increase would range from $1\frac{3}{4}$ to $3\frac{1}{2}$ percent for cans shipped on or after April 30.

American Can's price rises will average a little less than three percent, starting on May 1.

Names "Accopak" Agents

American Cynamid Co., New York, announced recently the appointment of Mead Board Sales, Inc., Lynchburg, Va., and Sonoco



National Milling & Chemical Co., Philadelphia, recently announced a new package for its "447" sudsing detergent. The product is designed for use in dish and glass washing. At the same time National Milling announced a new germicidal cleaner.

Products Co., Hartsville, S. C., as manufacturers and sales agents for "Accopak" pallets. Responsibility for "Accopak" industrial palletizing device will be handled by E. R. Harris at Mead Board Sales and by A. W. Du Bose at Sonoco Products.

Anchor-Hocking Sales Up

Sales, net income and common share earnings of Anchor-Hocking Glass Corp., Lancaster, O., rose in 1955 from the levels of the

previous year, it was reported recently. Sales in 1955 amounted to \$113,787,933, as compared with \$103,702,994 in 1954. Net income and earnings per common share totaled \$6,134,818 and \$4.13, respectively, in 1955. Comparable figures in 1954 were \$5,453,916 and \$3.65.

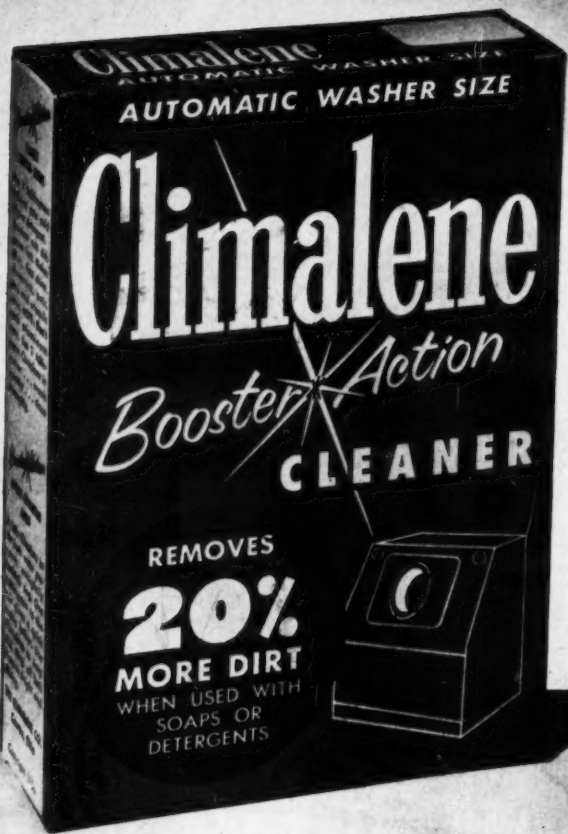
Stokes & Smith Sales Reps.

Three new sales representatives in eastern territories were appointed last month by Stokes & Smith Co., Philadelphia. Carl M. Robbins becomes sales engineer for paper box equipment in the metropolitan New York area and J. K. Holland has been appointed sales engineer for the firm's entire line of packaging and paper box equipment in the southeastern territory. Both men have been with the firm since 1954. Mr. Robbins will make his headquarters in Philadelphia, Mr. Holland in Charlotte, N. C.

Wendell A. Clough, Jr. has been named sales engineer for the entire line of packaging and paper box equipment in the New England territory. Mr. Clough joined Kingsbury & Davis Machine Co., Contoocook, N. H., in 1950 and transferred to Stokes & Smith in 1954. Prior to his new appointment he was a service engineer in the New England territory, a post now assigned to Richard M. Muny. Mr. Clough replaces former New England representative R. C. Smith Jr., now located at the home office.

Colgate-Palmolive Co., New York, is testing a 12-ounce polyethylene container with flexible sides to spray by squeezing a thin stream of its "Vel" liquid detergent from any position. Container, designed for packaging a wide variety of liquid or powder products, was developed by Bradley Container Corp., Maynard, Mass. Unit consists of flexible polyethylene sleeve with metal ends crimped on top and a new type spout. Aimed straight up or down or at any angle, spout releases stream of liquid. Extruded polyethylene sidewalls can be printed in three colors. To prevent losing double-seal plug cap, it is attached with a hinge to spout by moulding all three in one piece. Spout snap fits into the metal top and is recessed so cans may be stacked on top of each other. Bakelite Co. division of Union Carbide and Carbon Corp., New York, supplies the polyethylene plastic.





WHAT'S

New 56-ounce automatic washer size package of "Climalene" cleaner of Climalene Co., Canton, O. Booster action of product is claimed to increase soil removal when used with soaps and detergents. Product is also recommended by maker for cleaning wall and woodwork, dissolving grease from pots and pans, etc. Can also be used for washing lingerie.

"Twinkle", new copper cleaning cream of Drackett Products Co., Cincinnati, is now distributed nationally. Product is packed in wide, flare jar which is packed in billboard type carton of bright copper foil. Package lends itself to shelf stacking and comes packed in tear-tape type case.

New "Betco-Brite" floor wax of Betco Corp., Toledo, O. A light colored, carnauba base product, it is self-polishing. Features high gloss, durability, water resistance and buffability. Can be used on linoleum, asphalt vinyl, cork and other floorings. Packed in 1, 5, 15, 30, 55 gallon units.



NEW?

Tidy House Products Co., Shenandoah, Ia., is now marketing its liquid detergent, "Shina Dish," in 28 states. Product is packed in 12-ounce containers with aluminum nozzles and dripless spouts by American Can Co., New York. Cap is plastic. Later lithographed cans with plastic instead of aluminum pour spouts will be used. Product retails for 39 cents.

New paper hang-ups for its line of para deodorant blocks were announced recently by I. Schneid, Inc., Atlanta. Units come in choice of blue and white or yellow and white colors printed in high gloss inks. Space on front is for private labels.

Polyurethane plastic sponges are now being used for its "Lanolin-Foam" skin cleansers, it was announced recently by Kangaroo Products, Inc., Allendale, N. J. Sponge and 5 cakes of detergent containing bithionol, Monsanto's antiseptic agent, retail for 59 cents. Sponges come in aqua, pink and yellow. Detergent cakes are inserted in sponge, which is then wet and ready for washing. Refills are available.



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Three Crown Appointments

Appointment of Robert J. Siebert as northeast area sales manager was announced late last



Robert J. Siebert

month by John H. Scherer, manager of sales, Can Division, Crown Cork & Seal Co., Philadelphia. With Crown for the past 15 years, Mr. Siebert served as Philadelphia district sales manager of the Can Division for the past two and a half years. He will now direct Crown's district sales offices in an area ranging north to Maine, south to Virginia, and west to Ohio, and including metropolitan New York, Philadelphia, Baltimore, and Boston.

At the same time Charles M. McKenna was named office manager, New York sales. He has been with Crown since 1953 and prior to his recent assignment he served as sales correspondent in the Philadelphia office.

Assignment of Robert Shick to the Philadelphia district sales force was announced by George P. O'Brien, district sales manager of the Can Division. Mr. Shick, who joined the firm in 1955, will report to Mr. O'Brien.

Kimble Glass Founder Dies

Evan Ewan Kimble, 87, founder of Kimble Glass Co. and a director until 1948 of Owens-Illinois Glass Co., Toledo, O., died March 16 in Ventnor, N.J. Kimble Glass Co. was one of the main sources of medicinal glass ware for

the government in World War II. During the First World War Mr. Kimble served with the scientific apparatus section of the War Industries Board.

Western Packaging Show

Additional floor space has been made available for the Sixth Western Packaging and Materials Handling Exposition in the Pan Pacific Auditorium, Los Angeles, July 10-12. All original exhibit space had been sold out by Jan. 1, according to Clapp & Poliak, Inc.,

New York, producers of the show. Among exhibitors Triangle Package Machinery Co., Chicago, will demonstrate its new integrated bag making, filling, and sealing unit; Rapids-Standard Co., Grand Rapids, Mich., will feature its new line of steel channel conveyors which are completely galvanized and designed to resist damp locations or wet conditions; Biner-Ellison Machinery Co., Los Angeles, will show a bottom-filling bottler which handles bottles ranging from miniatures to gallon sizes.



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NEW Trade Marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U.S. Patent Office in compliance with section 12(a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the *Gazette*. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of \$25 must accompany notice of opposition.

Zedo—This for printing press wash-up compound. Filed May 20, 1955 by Floyd L. Reneau, doing business as Zedo Compound Co., Riverbank, Calif. Claims use since Apr. 30, 1955.

Hand-Aid—This for hand dish-washing detergent. Filed July 5, 1955 by Tesco Chemicals, Inc., Atlanta, Ga. Claims use since on or about 1945.

Etho-Chemicals—This for industrial aliphatic chemicals used as emulsifiers, wetting agents, and intermediates. Filed Sept. 10, 1954 by Armour & Co., Chicago. Claims use since Apr. 15, 1954.

Ethoduomeen—This for industrial aliphatic chemicals used as emulsifiers and corrosion inhibitors. Filed Sept. 10, 1954 by Armour & Co., Chicago. Claims use since Apr. 22, 1954.

Puritan—This for cleaning, sanitation, and maintenance products distributed to customers for industrial housekeeping jobs and/or for repackaging under their own brands. Filed Nov. 17, 1954 by Puritan Chemical Co., Atlanta, Ga. Claims use since June 1, 1925 on pipe cleaning compounds.

Rinse-Dry—This for rinse water additive to speed drying and prevent water spotting. Filed Feb. 24, 1955 by Economics Laboratory, Inc., St. Paul, Minn. Claims use since July 8, 1953.

Omazene—This for fungicide. Filed March 24, 1954 by Olin Mathieson Chemical Corp., New York. Claims use since Jan. 19, 1955.

Terraclor—This for fungicide. Filed Apr. 4, 1955 by Olin Mathieson Chemical Corp., New York. Claims use since Nov. 11, 1954.

Bonauba and Carbacote—Both for waxes, basically carnauba. Filed May 31, 1955 by Strohmeier & Arpe Co., New York. Claims use since Apr. 27, 1955.

Nylo-Wash—This for bleach-detergent. Filed Apr. 12, 1954 by Cobb Manufacturing Co., Richmond, Va. Claims use since Feb. 15, 1953.

Dri-Sorb—This for a grease and water absorbing floor cleaning compound in granular form. Filed Aug. 9, 1954 by James H. Rhodes & Co., Chicago. Claims use since Jan. 1952.

Spix—This for cleaning prepa-

rations for upholstery, leather, fabrics, painted surfaces and for use as hand brushing soaps. Filed Sept. 15, 1954 by Lloyd E. Jackson, doing business as Spix Products Co., Pittsburgh, Pa. Claims use since April 17, 1934.

Foam-King—This for soaps, shampoos, etc. Filed Sept. 27, 1954 by Old Empire, Inc., Newark, N.J. Claims use since Jan. 1, 1939.

Tilex—This for liquid detergent for cleaning tile and mortar surfaces. Filed Oct. 29, 1954 by Crown Chemical Co., Redwood City, Calif. Claims use since June 1, 1954.

Kokobace—This for soap and detergent compositions for use as a base for soap shampoos and liquid soaps and for general industrial use. Filed Nov. 30, 1954 by Nopco Chemical Co., Harrison, N.J. Claims use since July 1918.

trend—This for detergents in dry and liquid forms. Filed June 2, 1955 by Purex Corp., South Gate, Calif. Claims use since Oct. 18, 1946 on dry detergents, since March 21, 1955 on liquids.

Drew Lite—This for dry cleaning composition. Filed July 19, 1955 by E. F. Drew & Co., New York. Claims use since June 30, 1955.

Evr-Foam—This for detergent impregnated sponges. Filed July 20, 1955 by Church Industries, Inc., Chicago. Claims use since June 1, 1955.

Pura-Phen—This for surgical detergent. Filed July 27, 1955 by Puritan Co., Rochester, N.Y. Claims use since July 1, 1955.

Show-off—This for furniture wax and other gloss coatings. Filed June 1, 1954 by Show-Off, Inc., Jamestown, N.Y. Claims use since May 19, 1954.

Beauty Luster—This for liquid wax to polish and clean automobiles. Filed Sept. 1, 1955 by Beauty Luster, Inc., Shreveport, La. Claims use since May 20, 1955.

Ortho—This for industrial deodorizers. Filed June 2, 1954 by California Spray-Chemical Corp., Wilmington, Del. Claims use since Feb. 19, 1954.

Py-Tox—This for rodenticide. Filed Dec. 3, 1954 by Carleton Laboratory, Inc., Chicago. Claims use since Oct. 25, 1954.

Termicide—This for wood preservative. Filed Jan. 28, 1955 by American Termicide Co., Atlanta, Ga. Claims use since Feb. 25, 1954.

Lady Aileen—This for soap. Filed Jan. 13, 1955 by Industrial Soap Co., St. Louis, Mo. Claims use since Nov. 22, 1954.

Stanzo—This for general purpose detergent powder. Filed Apr. 12, 1955 by John T. Stanley Co., New York. Claims use since April 1951.

Turge—This for laundry powder for use in automatic clothes washing machines. Filed July 14, 1955 by National Chemical Laboratories, Inc., West Palm Beach, Fla. Claims use since Dec. 15, 1954.

Synowax—This for synthetic waxes. Filed June 7, 1955 by Cary

Chemicals Inc., Paterson, N.J. Claims use since May 23, 1955.

Cling-Free—This for anti-static fabric rinse. Filed June 7, 1955 by Harry H. Patrick, doing business as Ade-O-Matic Co., Chicago. Claims use since July 1953.

Armsol—This for soaps and detergents for laundering and brightening fabrics. Filed Nov. 25, 1953 by Armour & Co., Chicago. Claims use since Nov. 2, 1953.

Nurex—This for disinfectant and bleach for clothes made from material other than silk, wool, and rayon, also used as disinfectant and cleaning agent for sinks, basins, drains, etc. Filed March 29, 1954 by Charles J. Radosevich, doing business as Nurex Chemical Co., Centerville, Ia. Claims use since Apr. 1, 1953.

Rei—This for household washing and cleaning powder with bleaching properties, for soap, detergent and cleansing preparations. Filed Nov. 29, 1954 by Willi Maurer K.G., Boppard, Germany. Claims ownership of German mark dated Sept. 3, 1953.

Chanite—This for wax removers. Filed Dec. 2, 1954 by O-Cedar of Canada, Ltd., Stratford, Ont. Claims Canadian mark dated Dec. 2, 1953.

Sanfax—This for cleaning and sanitary chemicals and mixtures for cleaning buildings, fixtures, and industrial, transportation and food processing equipment, for use in deodorants. Filed Jan. 5, 1955 by Sanfax Co., Atlanta, Ga. Claims use since May 1950.

Teen-Sheen—This for shampoo. Filed May 17, 1955 by Teen Sheen, Inc., Shaker Heights, O. Claims use since Aug. 28, 1954.

Roil—This for shampoos. Filed Aug. 10, 1955 by Rayette, Inc., St. Paul, Minn. Claims use since May 1950.

Fabriclean—This for cleaning fluid for fabrics, rugs, and wood surfaces. Filed Aug. 24, 1955 by R. R. Street & Co., Chicago. Claims use since June 1, 1952.

BAP—This for paint cleaner, waterless hand soap, detergent for dishwashing, detergent for metal parts, and granular grease and oil absorbent for use on floors. Filed Sept. 15, 1953, by Drew Kloman doing business as Beaver Alkali Products, Rochester, Pa. Claims use since Jan. 2, 1950.

HI-Ratio Silicate—This for detergents for use in metal cleaning, heavy duty laundry operations, etc. Filed June 1, 1954, by Diamond Alkali Co., Cleveland. Claims use since May 1, 1951.

Colgate Sparkle—This for liquid household detergent. Filed June 7, 1954 by Colgate-Palmolive Co., New York. Claims use since Nov. 20, 1953, and since 1858 as to "Colgate".

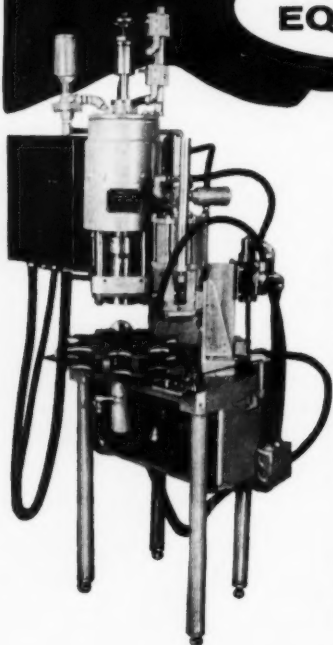
Vego—This for waterless hand cleaner. Filed April 8, 1955 by Chemicals & Materials Distributors Corp. doing business as Chemicals & Materials Corp., Terre Haute, Ind. Claims use since Feb. 16, 1955.

Fewa—This for fine washing preparations. Filed April 22, 1955 by Bohme-Fettchemie G.m.b.H., Duesseldorf, Germany. Claims ownership of German mark dated July 25, 1953.

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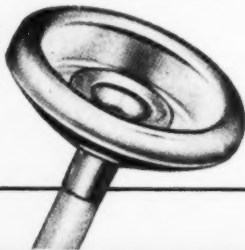
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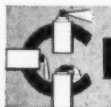
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Pressure Packaging . . .

A SHORT course in business forecasting — rosy assignment so far for most producers of the scores of pressurized products whose sales curve is still climbing steadily after ten years of phenomenal growth—tops the list of papers slated for presentation before the Aerosol Division at the CSMA midyear meeting in Chicago next month.

Chipping in with tips on how to look into the future realistically will be representatives of at least two companies who've made a science of forecasting to chart sales and product development strategy—Crown Can division of Crown Cork & Seal and the Kinetic Chemicals Division of Du Pont. Flanking them on a forum panel will be Robert Williams of Audit Surveys of New York City, an organization which provides market research services that constitute one pillar in the forecasting structure.

The educational forum will kick off the first day's meeting of the Aerosol Division . . . set the stage for announcement of results of the association's survey of 1955 aerosol production. Leg work in-

involved in getting together industry figures on last year's output got underway several weeks ago, when requests for confidential production reports went out to several hundred loaders and marketers of aerosol products, as well as manufacturers of containers and valves. That three-way check should—as it did last year—provide a pretty accurate picture of the industry's 1955 record.

Our guesstimate of what the survey may show . . . 250-300 million non-food aerosol units produced in 1955. Dollar value, retail? About the same number of dollars.

First pressure packed fruit concentrate of C. C. Lang & Son, Inc., Baltimore, comes in the seven flavors shown below. "Real Kool" is squirted into glass of tap or sparkling water and ice cubes. Each can will make about 18 seven-ounce glasses of beverage. Packed in newly developed 16-ounce containers made by American Can Co., the item retails for 39 cents. Dome top can is lithographed in several colors. Valves are by VCA, Inc., Bridgeport, Conn. Following market testing in Jacksonville, Fla., "Real Kool" will be sold in 58 major markets by about June 1. Lang says concentrates may be used for ice cream drinks, as a punch base, or for hot spiced drinks. Also, as a flavoring for gelatin desserts, sherbet, rice or tapioca puddings, or as a topping for desserts.

Other subjects expected to be covered in papers at the Aerosol Division sessions in May:

Nonflammable paint; strippers; new propellant blend; perfuming of aerosol products; apparatus for counting and measuring size of particles in aerosol sprays. Latter paper, slated for presentation by Armour Foundation, ties in with Battelle Institute's cascade impactor device, discussed later in this column.

A discussion of latest developments in enforcement of ICC regulations affecting the aerosol industry is scheduled for the Chicago meeting. Speaker will be the Bureau of Explosives' Chief Inspector, H. A. Campbell, no stranger to the aerosol group, whose members have leaned heavily on him and his associates for helpful guidance in assuring safe products.

All in all, the Aerosol Division's program for the Chicago meeting next month shapes up as another extremely valuable contribution to the industry's knowledge and welfare.

* * *

CSMA's quarterly Board of Governors session held in Chicago late in March disclosed plenty of action going on in Aerosol Division committees.

The group's Public Regula-



tions committee, pointing out that the Bureau of Explosives would like to draw up new regulations on shipment of flammable aerosols and end the rash of special permits required recently, hopes to whip together recommendations for consideration by the Bureau on its June docket.

Bureau of Explosives wants to exclude highly flammable aerosols and require protective device or cap to prevent accidental discharge of valves in transit. CSMA recommendations to the Bureau probably will suggest further tests for compressed gas aerosols that sustain flame or flash back. Such tests would call for determination of flash point of liquid contents, with CSMA suggesting that products with a flash point over 20° Fahrenheit by the tagliabue open cup test be cleared for shipment in recognized standard containers with a protective valve cover. If adopted by Bureau of Explosives and ICC, the new regulations probably would mean little change over current practices of the industry . . . only aerosol products which would appear to be excluded would be those which have a very low flashing liquid content.

Aerosol Labeling

IN another move to help assure that pressure packagers continue to uphold high consumer safety standards, CSMA's Board of Governors ratified the Aerosol Division's decision to require that aerosol products, in order to be eligible for entry in its annual packaging contest, include precautionary labeling sufficient to comply with regulations such as the Pesticide Act. Voluntary compliance by the industry has been good to date . . . but you can't be too careful.

Particle Size Test

POINTING out that the effectiveness of many aerosol sprays, particularly insecticides and paints, depends upon the size of particles of active ingredient dispensed, Battelle Memorial Institute foresees the need for a simple,

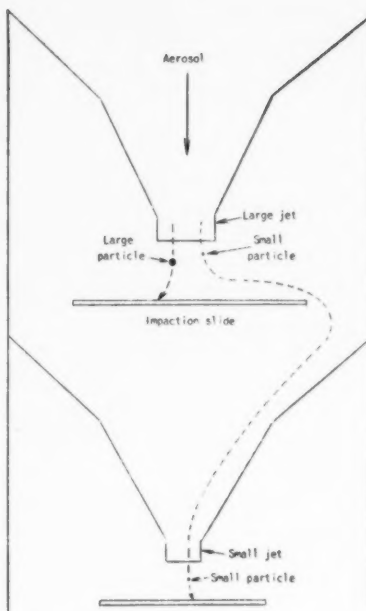


FIGURE 1. SCHEMATIC DIAGRAM SHOWING PRINCIPLE OF THE CASCADE IMPACTOR

rapidly reproducible, and standard particle size test method for aerosol units. The answer, they say, may exist in a cascade impactor they have developed.

Details of the impactor were disclosed by the Institute's J. Mason Pilcher in a technical paper presented before the Aerosol Division of CSMA at its 42nd annual meet-

ing in New York last December. A practical demonstration of how the device might fit into an aerosol program of standardized quality control was presented to representatives of a dozen or more aerosol marketers and component manufacturers at the Institute's Columbus laboratories on March 7.

While the device itself and the test methods employed with it seem to fill the bill, Pilcher feels there's a broad research program required before the cascade impactor can be proved soundly applicable to the aerosol field's wide range of products. That research is too broad, too expensive, to be borne adequately by one organization. Out of the March 7 meeting, Pilcher hopes to win support from leading members for a joint, cooperative research program . . . the need for a standard test can best be met, he opined, through the combined efforts of the numerous companies that contribute to the production of aerosols.

Battelle's cascade impactor resembles a fractionating tower in appearance with seven sections, each consisting of a funnel-shaped sampling chamber with a closely calibrated orifice leading to a glass slide. Orifice sizes are progressively smaller in each of the seven sections, so that a range of particle sizes from 0.1 to 20 microns in diameter can be studied. The column itself is constructed so that the particles in a sample aerosol spray pass progressively through the seven funnels, with orifices decreasing in size from the top of the column to the bottom. Thus, the top orifice section will permit passage of all particles up to 20 microns diameter while the particles are screened out in successive stages so that the glass slide under the seventh funnel section passes only those particles in the 0.1 micron range.

Close control is obtained through use of a solenoid-operated cover for the sampling port at the top of the column. A vacuum pump at the bottom of the column assures a steady sample flow through the

(Turn to Page 173)

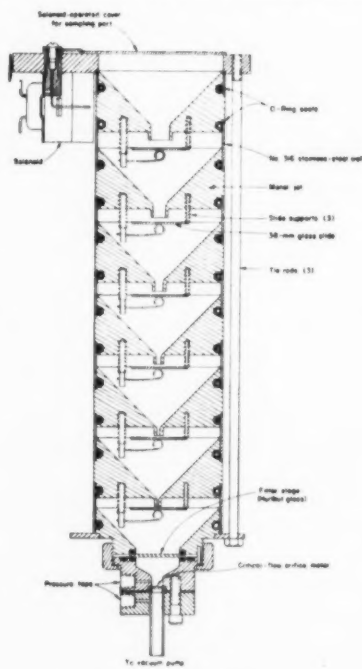


FIGURE 2. BATTELLE NO. 6 CASCADE IMPACTOR

Chemical Specialties

Advantages...



ADVANTAGES of membership in the Chemical Specialties Manufacturers Association are many. Direct services to members from CSMA headquarters, including the regular bulletin service, are of vital importance to every member firm. Through participation in the affairs of this very active trade association, many valuable contacts have been and can be made. And there are numerous other benefits.

During the 42 years of the Association's history, leaders in the field have been prominent in its affairs,—manufacturers, large and small, of floor products, insecticides, disinfectants, deodorants, aerosol products, soap and detergent specialties, polishes, automotive chemicals, and other chemical specialties. They have met together regularly for an open exchange of views on common industry problems.

Membership in CSMA could have advantages for your company. If you want further information, write to

H. W. HAMILTON, *Secretary*



Chemical Specialties Manufacturers Association, Inc.

50 East 41st Street

Harry E. Peterson, 1st Vice-Pres.

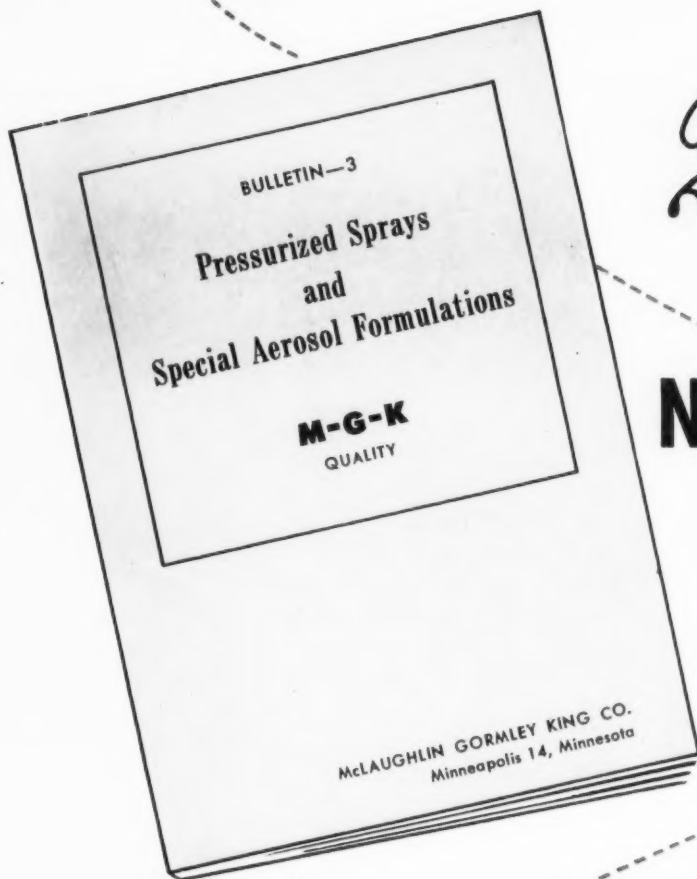
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versatile

CSC emulsifier

and chemical

intermediate

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AMP

2-AMINO-2-METHYL-1-PROPANOL

use **AMP** as an emulsifier

AMP oleate is an economical emulsifier in water-wax emulsions. That's because AMP oleate is effective in lower concentrations than are required for comparable performance with other amine soaps. Emulsions made with relatively low concentrations of AMP oleate are stable and unchanged after repeated freeze-thaw cycles and heat stability tests. In properly formulated floor wax emulsions, AMP oleate imparts high gloss and excellent leveling characteristics.

The higher fatty acid soaps of AMP are powerful emulsifying agents in cleaners, polishes, dressings, self-polishing floor waxes, and emulsion-type paints. Evaporation loss and objectionable fumes are minimized during emulsion manufacture, due to AMP's relatively high boiling point. Films deposited from AMP-made emulsions have excellent water resistance and durability.

use **AMP** as a chemical intermediate

AMP forms substituted amides with esters, anhydrides, and acyl halides. AMP also reacts with alkyl halides, aldehydes, ketones, carbon disulfide, and many other compounds. These reactions suggest the use of AMP in the synthesis of surface-active agents, detergents, and vulcanization accelerators for rubber.

PHYSICAL PROPERTIES

Molecular Weight	89.14
Boiling Point, at 760mm	165°C
Melting Point	30-31°C
Specific Gravity at 20/20°C	0.934
pH of 0.1M Aqueous Solution at 20°C	11.3
Solubility	Miscible with water, aromatic hydrocarbons, alcohols, esters. Insoluble in aliphatic hydrocarbons.

SPECIFICATIONS

Neutral Equiv.	88.5-91.0
Color, APHA, max.	20
Water, by wt., max.	0.8%
Distill. Range	156°C-177°C
Below 161°C, max.	10%
Above 168°C, max.	5%
Odor	Characteristic
Non-volatile matter by weight, max.	0.005%

OTHER AMINOHYDROXY COMPOUNDS

AMPD (2-Amino-2-methyl-1, 3-propanediol)
 $\text{CH}_2\text{OHC}(\text{CH}_3)_2\text{NH}_2\text{CH}_2\text{OH}$

AEPD (2-Amino-2-ethyl-1, 3-propanediol)
 $\text{CH}_2\text{OHC}(\text{C}_2\text{H}_5)_2(\text{NH}_2)\text{CH}_2\text{OH}$

TRIS AMINO (Tris [hydroxymethyl] aminomethane) $(\text{CH}_2\text{OH})_3\text{CNH}_2$

AB (2-Amino-1-butanol)
 $\text{CH}_3\text{CH}_2\text{CHNH}_2\text{CH}_2\text{OH}$

AMP is another important chemical derived from CSC's Nitroparaffins. For samples and additional information write to:

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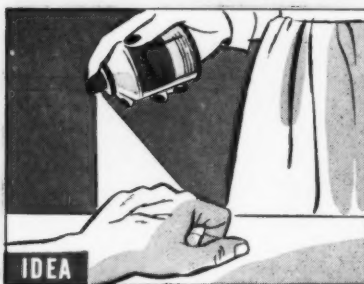


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"PANCAKE" MAKEUP OR
COMPLEXION CREAM

NEW IDEAS\$

Here are additional \$ Ideas \$ for possible development. They were suggested by marketers of chemical specialties who believe such products may have a future as aerosols. **What do you think?**

- Anti-fogging spray (inside glass surfaces)
- Anti-mold spray
- Anti-static sprays for specialized uses . . . on synthetic fibers, etc.
- Baby oil
- Bubble bath
- Bird cage spray
- Cat repellent
- Cattle grub control
- "Cement" adhesives
- Coatings and protective films
- Corn Borer worm oil (sweet corn)
- Crack caulking (showers, bathtub, etc.)
- Crack sealers for painters
- Cleaners for heavy duty porcelain cleaning
- Carbon smudge cleaner for offices
- "Ditto" ink
- Dog repellent
- Diaper rash preventative
- Eye Glass Cleaner
- Gun bluing
- Glue & mucilage
- Mouse & rat repellent

- Moth repellent
- Mirror cleaner

- Nail polish

- Plant spray (powder)

- Plastic spray—preserving valuable papers

- Paint—anti-skimming

- Rubber cement

- Smoke spray for beekeepers

- Spray materials—home repairs

- Signal or alarms for odorless gases

- "Soot Bomb" for coating Kymograph recorders

- Sun screening spray for windows (to reduce sun fading of house furnishings)

- Starch (laundry)

- Tooth paste

- Toilet germicide

- Vapor inhalant

- Wall cleaner

- Window caulking repairs (plastic)

- Or other products that can be sprayed, brushed on, dusted or daubed!



Basic Chemicals
for American Industry



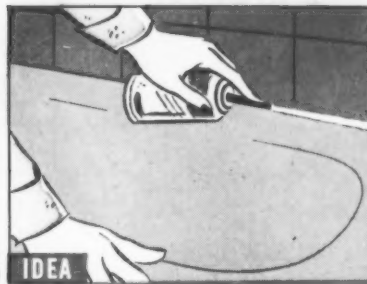
\$ IDEA

BABY OIL OR RASH PREVENTATIVE



\$ IDEA

HAIR DRESSING FOR MEN



\$ IDEA

CRACK CAULKING AND SEALERS

for profitable aerosols!

CASH IN ON THEM...WE'LL HELP YOU!

Remember the first insecticide bombs? The first hair spray aerosols? The first aerosol shave creams? They were only *ideas* a few brief years ago, and almost before you could count ten, they were selling by the millions!

Here are some brand new ideas for potential aerosol products. If you market cosmetic, drug or chemical specialties, check them over. There may be one that can be the next big seller in your line. Or perhaps you have some other aerosol ideas of your own. In either case, we'll be glad to discuss them with you in confidence, and to work with

you or your Contract Filler in developing them. Our aerosol laboratory, testing facilities and accumulated experience will be at your service in changing ideas into money makers!

Trouble-Saving Short-Cuts to Profits in Aerosols

You can look to our Aerosol Technical Service staff for help in developing a formulation with *Genetron* Propellants that will be *exactly right* for your product.

Among other services, we will help you locate experienced Contract Fillers to take over the entire job of packaging your products as convenient, push-button aerosols. Whether you want a small test run or sustained volume production, you can get into aerosol packaging with the help of a Contract Filler *without investing a cent in special equipment*... without adding space, without hiring or training specialized personnel.

The opportunities presented by ideas listed here cannot last. Some are already being developed by alert merchandisers. So don't delay; get started in the profitable aerosol field today... write to:

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Aerosol Propellants

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For Every Aerosol Formulation*

genetron department

GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.

Choose the Right Size of PARADI®

from this time-saving checklist

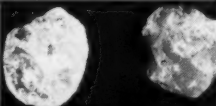
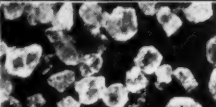
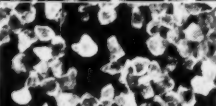
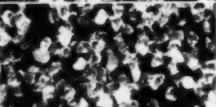
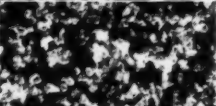
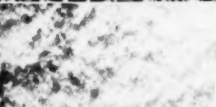
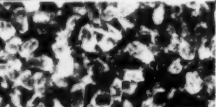

This checklist shows the many forms in which you can purchase PARADI (100% pure Hooker paradichlorobenzene).

Every one of the seven crystal sizes has its advantages, depending on how you plan to process or repackage it. All seven are shown here actual size.

To help square away your paradichlorobenzene requirements for this year, just route this page to the right people in your company. We've left space for their comments.

✓ PLEASE ROUTE TO:

- ☐ Purchasing
- ☐ Production
- ☐ Sales
- ☐ Research
- ☐ Return to Purchasing

SIZE AND DESCRIPTION:		COMMENTS:	CHECK HERE FOR:		
			Free 1-lb. sample	50-lb. trial drum (purchase)	Further information
PEA No. 1 Repackage these big sparkling PARADI crystals just as they come from the drum.					
PEA No. 2 A popular size for re-packaging in vaporizer cans.					
RICE No. 1 Smallest crystals recommended for direct re-packaging. Excellent for shaker-top cans.					
RICE No. 2 Exceptionally free-flowing, easy packing, for fast refilling of power presses.					
RICE No. 3 For foot-operated presses you need a finer crystal like this—free-flowing but small enough to pack and compress easily.					
POWDERED Save time in melting and molding with this super-fine fast-melting size.					
GRANULATED Sell this size in bulk for agricultural use.					
MOLTEN OR SOLID. Using 50 or more tons per month? You may find it advantageous to install your own grinding and screening equipment, and purchase molten PARADI in tank cars, or solid PARADI cast into fiber drums.					

SEE FOR YOURSELF the extra sales appeal you can get with dry, sparkling PARADI. The brilliant, snowy crystals sublime *completely*—without stain or residue. They make firm, clean blocks and pellets of exceptional whiteness. You can get them in fiber drums—25, 50, 100 or 200 lbs. net.

Send for samples, or order trial drums of the sizes that match your needs. And tell us how else we can serve you—with technical data, helpful processing and packaging hints (ask for Bulletin No. 454), shipping information.

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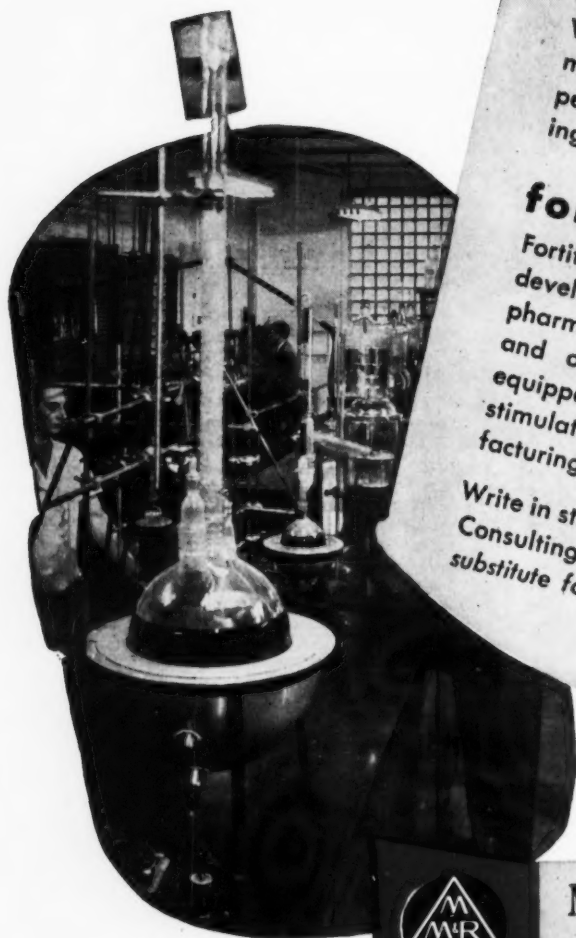
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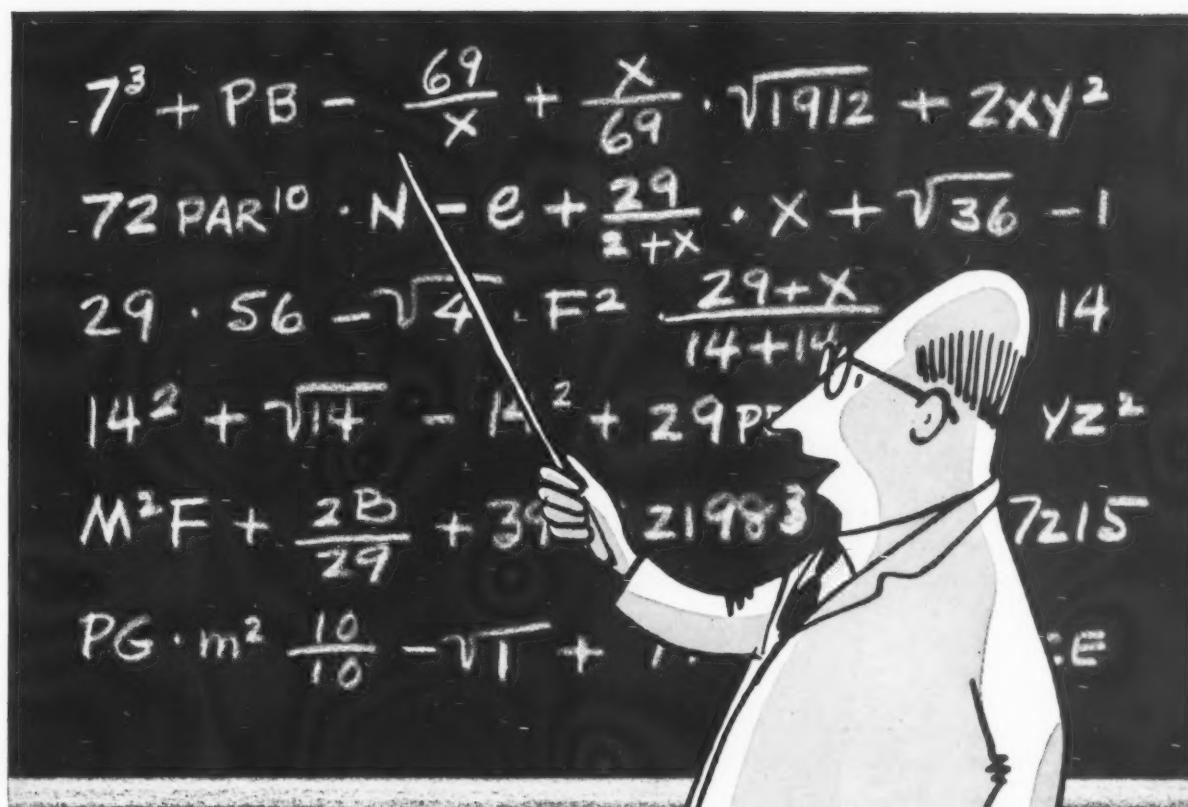
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APRIL, 1956

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• I.R. Bulletin "A"

• ☐ "General Information on Petrolatums"
• I.R. Bulletin "B"

• ☐ "General Information on Petroleum Sulfonates"
• I.R. Bulletin "G"

• What can you do to help me solve this problem?

• _____

• _____

• _____

• Name.....

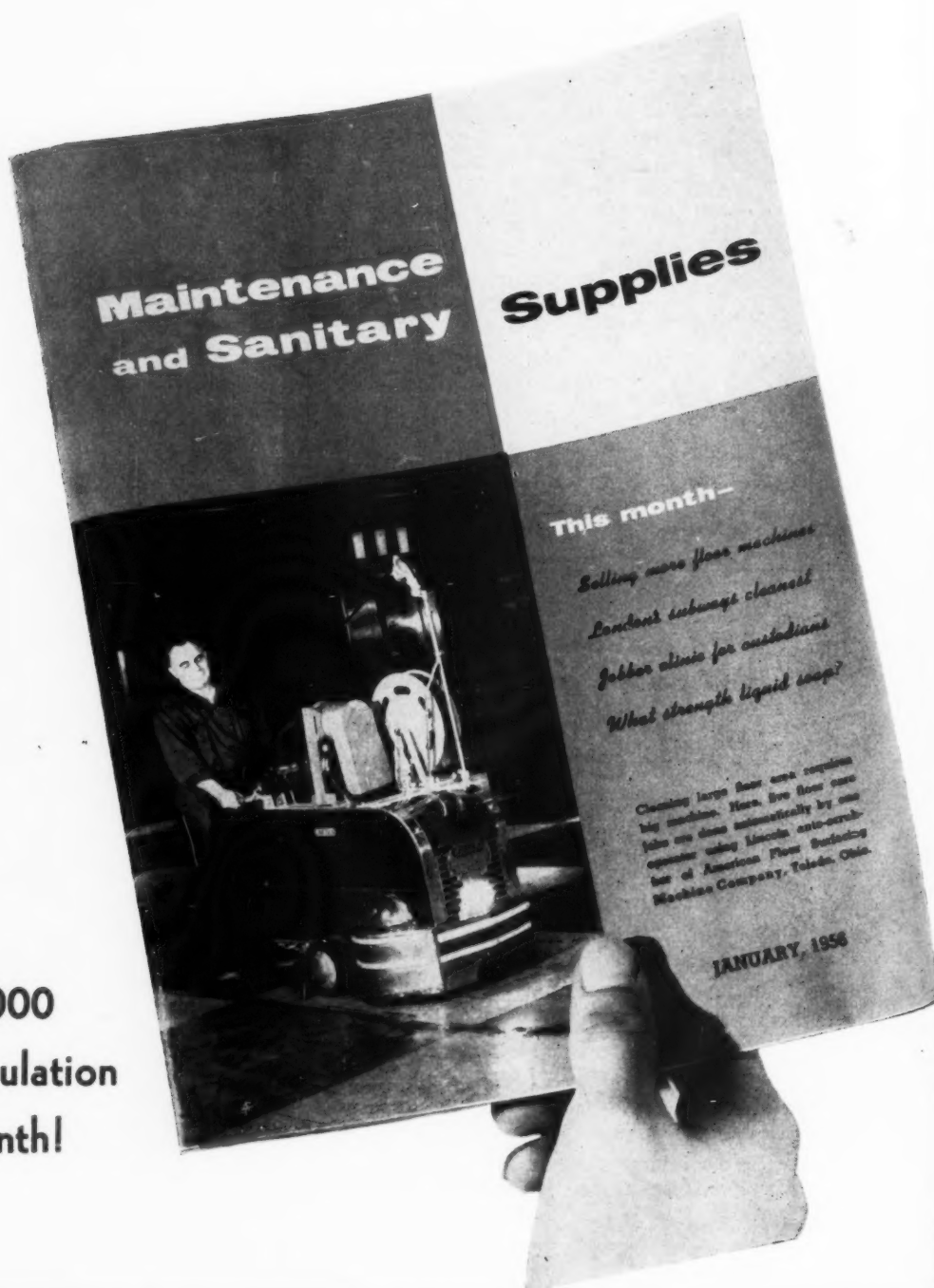
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Specific Gravity @ 25/25°C.	0.963	0.9275	0.899	1.018	0.9855	0.952
Boiling Range 5-95% @ 760m.m.Hg						
°C	123-126	133-136	166-173	189-195	197-203	225-233
°F	254-258	271-277	330-343	372-383	387-397	437-450
Viscosity CPS @ 25°C	1.532	1.838	2.83	3.467	3.780	4.92
Flash Point °F (COC)	125	110	160	210	205	225
Dilution Ratio:						
Toluol	4.0	5.2	3.3	2.3	1.9	
L. D.						
Naphtha	0.3	1.1	1.8		0.2	
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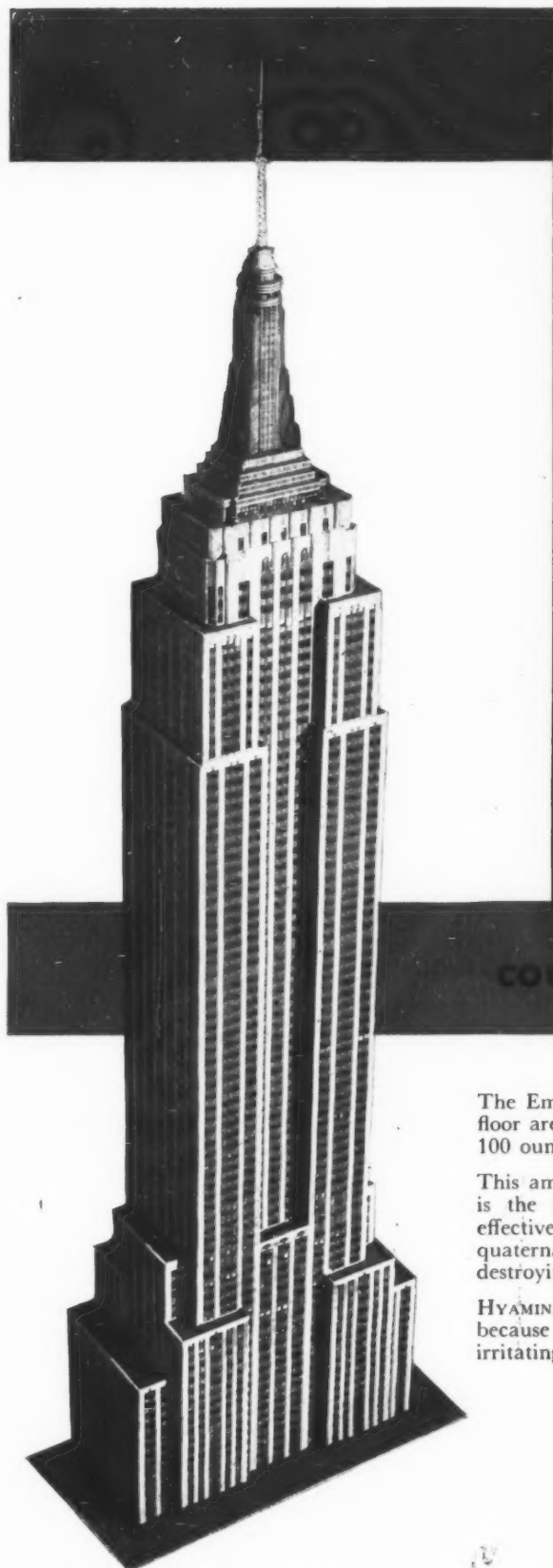
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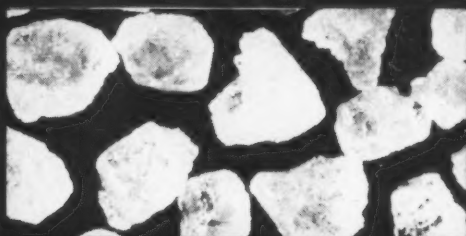
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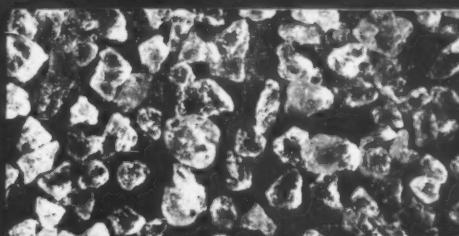
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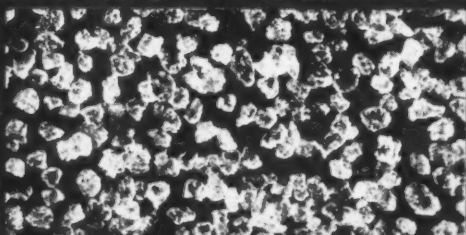
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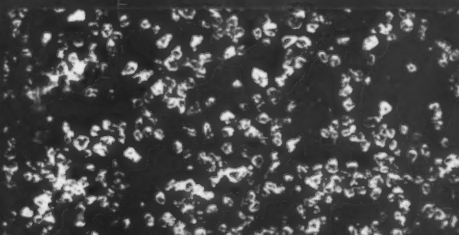
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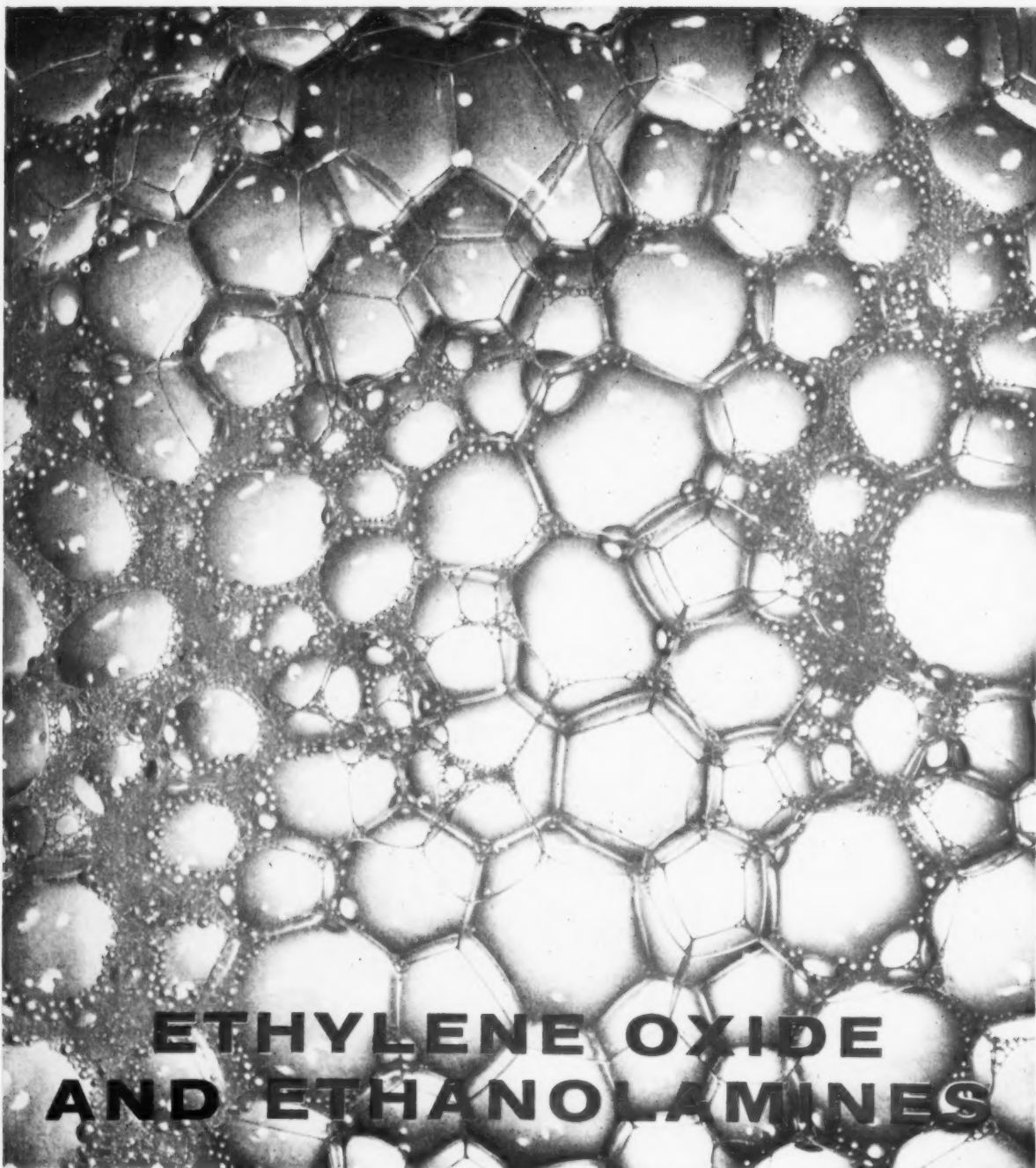
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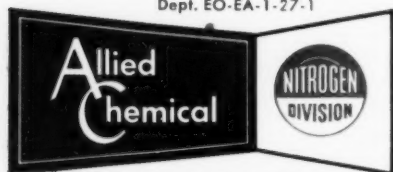
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THE subject of aerosol surface coatings covers a large number of applications and product developments, but essentially the subject narrows down to two end-uses:—(1) artistic decoration—and (2) protective covering against various elements.

There are numerous kinds of aerosol surface coatings for application to people, such as:

(1) Suntan lotions in aerosol form, which have a clearly de-

By J. W. Bampton

Krylon, Inc.

fined purpose and a growing acceptance.

(2) Pharmaceutical spray coatings for burns and wounds. These are newcomers with obvious uses.

(3) Mothproofers and insect repellents, again, are self-explanatory.

(4) Sprays for controlling and beautifying the hair-dos of the ladies.

These are certainly important surface coatings, as well as a means of winning \$64,000 or at least a Cadillac.

There are also numerous kinds of aerosol surface coatings for application to things, in the home, in commerce, and in industry: (1) Enamels and lacquers for use with brush, industrial spray gun, or dipping are scarcely new. Their use in aerosol dispensers is likewise becoming established in the American market, both for decorative and protective purposes. (2) Primer

*Paper presented before 42nd annual meeting, Chemical Specialties Manufacturers Assn., New York, Dec. 6, 1955.

coats for bonding of the finished coat to bare surfaces. (3) Protective coatings created simply as rust inhibitors, corrosion preventives, against the elements of moisture, chemicals, etc. (4) Process coatings to provide lubrication, mold release, and so on.

These end-uses are only a few of the big targets for aerosol dispensers, competing against long-established methods of application with old formulations modified for spraying, and with some ingenious new formulations. The aerosol dispenser has made considerable progress in several of these protective end uses, while in others the surface has only been scratched.

For now, let us concentrate on the "state of the nation" in the manufacture and marketing of aerosol enamels and lacquers in 1955.

This is an age of "packages" . . . packaged products, packaged merchandising and packaged phrases of speech. You see, hear and read endless pronouncements and catch-phrases about "do-it-yourself," touchup, automation, labor-saving . . . and profit and loss.

Aerosol dispensers of enamels and lacquers have moved into these "package" areas, with sufficient merit to establish a beachhead, and to grow.

Aerosol Characteristics

WHAT characteristics are needed in aerosol lacquers and enamels to justify the interest of the market? Obviously, *color selection* is important. Also high gloss, durability, and good adhesion, and very important is *quick drying* so that dust and dirt will not settle on the job before it dries. Compatibility with the original finish is also a vital consideration.

A *good value* to the user means "good to the last spray": no faulty valves, a fine spray with no coarse droplets of color, and long shelf life. The user demands a professional result in quick time, no fuss or muss, and reasonable cost.

It is not hard to picture the job cut out for paint makers. We

are being asked to provide durable finishes in an almost limitless range of shades. The problem of what range of colors to put in aerosols rears its head, as well as sundry problems of estimating inventory, financial investment, service requirements and market demands.

But let us assume for the moment that you have the answers to these questions, and proceed to the nature of lacquer and synthetic enamels. As you know, one way to determine physically whether an object is coated with lacquer or enamel is to select an obscure part of the surface and rub the finish with lacquer thinner. Most lacquers will rub off, enamels will not.

You are also familiar with the doctrine that enamel can be applied over lacquer, but *not* lacquer over enamel as the solvent may act as a paint remover.

So now you are ready to consider the materials for packaging lacquers or enamels in aerosols for touch-up use. Color matching is obviously a most important consideration, if you are aiming your product at appliances or automobiles. How much has the original paint job receded from its original color? This consideration may prompt you to limit your color line to pigments that have proved to be lightfast, non-bleeding, and non-settling and stable in storage.

Not all color chemists are convinced that organic pigments are the complete answer to your color problems. An expert on vat dyes would single out one trait of organic colorings: their tendency to be removed by waxing the object.

The procurement of pigment dispersions may be handled in several ways:

1. Purchase them as ready-mixed enamels or lacquers from responsible paint manufacturers, and cut them back with balanced solvent blends and propellants. The recognition and control of certain variables is critical to produce satisfactory results.

2. You can grind your own pigments and mix them into suitable dispersions.

3. You can buy your pigment dispersions mixed to your specification from custom grinders, and add your own particular film-forming systems.

Economic considerations and other factors will influence your decisions on which of the three methods to follow.

Compatibility

THE word "compatibility" now enters the scene. Specifically, there are two fundamental problems in formulation work: compatibility of the dispersion with the propellant system, and control of the spraying characteristics of the entire system. This means that the viscosity and pressure must be controlled so that the formulation produces a spray that is fine enough to insure a uniform deposit of the coating, without wasting excessive amounts of permanently airborne droplets.

Since there are literally thousands of enamel and lacquer formulations, it is not possible to describe in detail the behavior of specific aerosol formulations.

The compatibility of the resins or other film formers with the several propellant gases available is a basic consideration in your product development.

The solvent power of the materials used to dissolve and thin always remains an important factor in the tolerance of a given resin solution for a given propellant. This aspect covers a very broad consideration of solvents and diluents in combination with the propellant gas.

Briefly, the controls exercised in the selection of the elements just mentioned will determine the point at which the viscosity and consistency are low enough for a satisfactory spray at pressures permissible in the common aerosol containers. Resins having shorter oil lengths, are less responsive to thinning than the longer oil resins. Solvents such as ketones and alcohols can be quite effective in thinning certain alkyd resin solutions. The longer oil resins are less viscous than short oil types, and make possible formulations having

higher solids at a given consistency. In other respects, the same principles can be employed in formulating the two types. It is important to allow a margin of safety with respect to propellant loading when dealing with a resin-propellant system, to avoid sluggish spray and resin separation. Obviously the pressure must be maintained above a certain minimum to produce a good spray at a given consistency.

The inter-relationships among consistency, pressure, and spraying characteristics must be established through research and experience in order to obtain a good spray. In this respect, coarse droplets can be avoided to a large extent by selecting consistency pressure conditions which lie only far enough in a good spraying region to produce a uniform spray.

Problems of sagging, bubbling, cratering, orange-peel, gloss,

and selection of valves are all important factors affecting the performance of aerosol coatings.

Sagging is frequently due to the use of too large a volume of high boiling solvent, especially if a resin of comparatively low viscosity is employed. This condition can be corrected by using a more volatile solvent. Under some conditions it may be preferable to use low boiling solvent only in thinning and concentrate while in other circumstances it is better to do the thinning with a larger volume of propellant. The tendency for some enamel vehicles to *bubble* when formulated with low boiling point solvents may limit the effectiveness of this method of avoiding sagging.

The causes of *cratering* are usually the same as those which produce bubbles, and the same corrective methods apply.

The causes of *orange-peel*

are often obscure. Sometimes it appears to result from the retention of too much propellant in the spray as it reaches the target. A volatile propellant helps to prevent this condition. A solvent which imparts more flow to the wet film after the loss of the propellant will often correct orange-peel, but too much will introduce sagging.

Other cases of orange-peel appear to be due to condensation of moisture on the droplets during spraying. A change in solvent composition to make the system more tolerant of moisture will usually correct this problem.

Still another type of orange-peel seems to be due to incipient gellation or precipitation of the vehicle in the dispenser. It points to an incompatible vehicle propellant system. Altering the solvent and propellant composition to attain greater compatibility will correct this condition.

The gloss of coatings is largely determined by the type of resin employed and the degree and type of pigmentation. You can control these factors in manufacturing the concentrate.

Valve Clogging

CLOGGING of the valve is still the most serious problem, perhaps, in present day formulation. However, through constant research, formulation controls, and production controls, excellent spray results can be achieved. The resistance of the plastic dip tube and other valve parts to the strong solvents used in the formulation calls for extended shelf-life tests. The corrosion resistance of the can itself should be carefully tested by extended shelf-life.

There is no short cut to the proper formulation of enamels and lacquers. The field calls for intensive research by competent technicians, and extended laboratory and field tests. Shelf life is a most important "proof of the pudding," in reference to the stability and non-settling merits of the material. The resistance of the valve and the can

(Turn to Page 161)



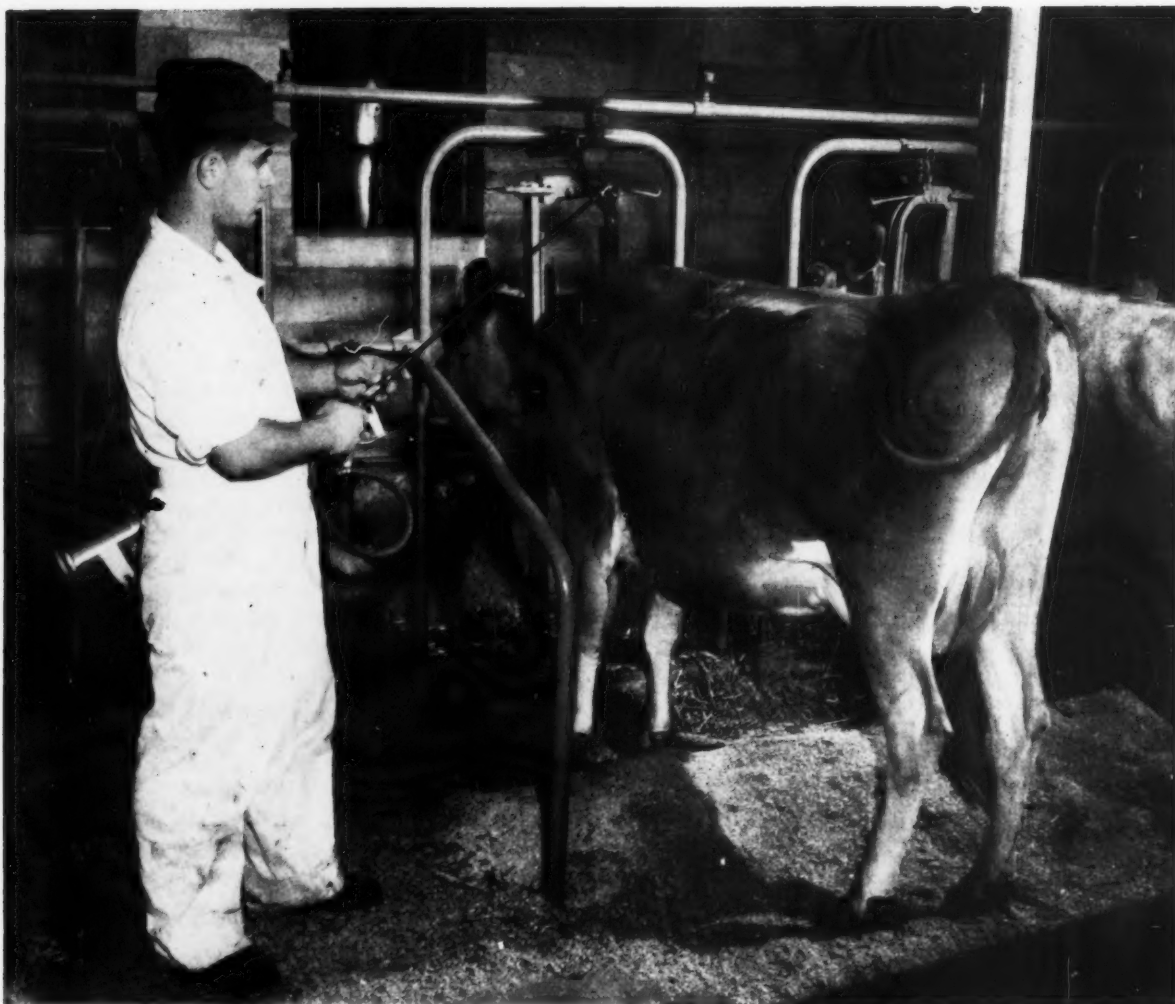


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Insects As Livestock Pests

ALL classes of domestic animals are attacked by insects, mites, and ticks in every part of the nation. There are no areas in which livestock is free from their depredations. Some species, such as horse flies and screw-worms, are local or regional in distribution, while others, such as cattle lice and the horn fly, are generally distributed, although less numerous in some areas than in others. There are at least 400 species

By A. W. Lindquist,*

Entomology Research Branch,
Agr. Res. Serv., U.S.D.A.

ies that affect animals in the United States. Of this number 50 species are of major importance.

Insects, mites, and ticks plague livestock the year around. During the warmer months horn flies, horse flies, deer flies, and certain ticks are most abundant, and during the colder months lice, cattle grubs, sheep ticks, mites, and some

of the ticks are ever present and troublesome. Cattle grub larvae burrow through the host tissues for 8 to 9 months, and in addition the adult flies are active for 1 to 3 months in the spring or early summer, terrorizing cattle by their attempts to lay eggs on them. Cattle may run wildly, jump fences, and even refuse to feed properly.

Insects injure livestock in several ways. Most of them suck blood, thereby lowering the animals' vitality and causing them to feed improperly. Lice and ticks cause

*Paper presented at the 42nd annual meeting, Chemical Specialties Manufacturing Assn., New York, Dec. 6, 1955.



Treadle type sprayer for applying coating of toxicant and repellent. As the animal goes through gate it actuates sprayer by stepping on treadle.

them to become unthrifty and to gain weight slowly. Horse flies, deer flies, and stable flies are painful biters, and cattle fight them continuously by milling around, stamping, and even running. Such activity is not conducive to normal weight gains or milk production. Screw-worm infestations sicken and weaken animals and will kill them unless the maggots in the wounds are destroyed and care is taken to prevent reinfestation.

Several livestock diseases are carried by insects. Ticks, mosquitoes, and biting flies have been implicated in the transmission of anaplasmosis. Anthrax, an acute disease caused by *Bacillus anthracis*, affects all classes of livestock. Its incidence is especially high during fly season, and outbreaks have been attributed to transmission by horse flies, stable flies, and mosquitoes. A disease of sheep new in this country, known as blue tongue, is carried by biting gnats or sand flies of the genus *Culicoides*. Fowl pox, a widespread and serious disease of poultry, is often transmitted by mosquitoes. Black flies transmit a Leu-

cocytozoon, a disease of turkeys. House flies because of their filthy habits are suspected of carrying several diseases of livestock and poultry from sick to healthy animals.

As a general rule, it is difficult for the layman to perceive weight losses of livestock due to insect attack. To detect or estimate small or moderate differences in the

weight of infested animals and those protected from pests, carefully controlled experiments are necessary. Laake (1946) showed that in two months sprayed cattle gained about 50 pounds more than unsprayed cattle. Declines in milk production are usually easier for the layman to determine, since daily production records are maintained. Bruce and Decker (1947) reported experiments in which herds of dairy cows in Illinois treated with DDT yielded 10 to 20 percent more milk than did untreated herds.

Insect damage to plants is usually more easily measured. This may account for the fact that some livestock men have lagged in the use of insecticides and the encouragement of further research on insect problems. Estimates of the annual losses caused by insects to both plants and animals vary considerably and are at best rough approximations. Recent figures from the Department of Agriculture show plant losses in this country totaling about \$1,942 million and losses to livestock about \$507 million. Thus losses in plants are nearly four times as large as those in animals.

However, the importance of the livestock industry in the United States is reflected in the fact that cash received by the farmer for livestock plus its value for home consumption totals approximately \$18 to \$20, billion annually as compared

Another form of treadle sprayer. Cattle stepping on treadle actuates spraying mechanism which may coat one or both sides. Spray contains repellent and toxicant.





Combination of repellent and toxicant is applied from back rubber, which is attached to fence. Unit, which can be purchased or made by the farmer, contains a week's supply of toxicant and repellent.

with about \$12 to \$14 billion for all plant crops. The cattle population in 1953 totaled approximately 94 million (U.S.D.A. 1953), and very likely the numbers will increase over the next few years. In addition there were approximately 55 million hogs, 31 million sheep, and about 3 million goats, not to mention poultry and horses. Even a small monetary loss per animal due to insect attack means large totals.

Government Research

CONSIDERABLE research is being conducted by Federal, State, and industrial scientists on improved methods of controlling insects. Although it is difficult to obtain comparative figures, the Federal Government spends perhaps 8 to 10 times as much on research dealing with plant pests as with animal pests. Probably most of the States maintain an even greater ratio on plant pests. In most States funds allotted for the study of livestock pests are meager indeed. There is no doubt that both Federal and State research is inadequately supported in view of the large numbers of pests and the magnitude of the damage they inflict.

There are probably fewer than 30 State and Federal entomologists engaged in full-time research on livestock insects in the United States. At least 10 times as many are giving full attention to plant pests. It is recognized that problems of plant-pest control require all and perhaps more effort than is now devoted to them. However, since the value of livestock and livestock products equals or exceeds that of plants and plant products, research on livestock-insect problems deserves greater support. Any increase in research will certainly pay for the costs many times over in increased income to the growers.

Insect Control

THERE are two general ways in which livestock insects are controlled—(1) eliminating the insects by destroying their breeding places through sanitation or the application of insecticides, and (2) spraying or dipping the animal with insecticides to destroy the insects that spend part or all of their life cycle on the host. Protectant sprays and repellents are used to keep biting flies off animals, although they do not actually destroy them.

Direct application of insecti-

cides is the most widely used method. DDT, lindane, toxaphene, methoxychlor, TDE, chlordane, pyrethrum, rotenone, the thiocyanates, and allethrin have made it possible to obtain economical control and thereby to increase beef and milk production. Several of these insecticides are suitable for the control of horn flies and other pests on beef cattle. On dairy cattle, however, because of residue problems we are currently limited to methoxychlor, synergized pyrethrum, allethrin, rotenone, and the thiocyanates.

Spray Use Varies

EVEN though good horn fly control sprays are available, it is my opinion that many stockmen are not using them properly or frequently enough to obtain the maximum possible benefits. It therefore appears that a strong educational or selling program is in order.

During the last few years there has been much interest in finding easier and cheaper means of applying insecticides to cattle, especially on small herds. Treadle sprayers, back rubbers, hand dusters, and automatic spray systems in barns have had more or less success under special conditions. These methods have a definite place in livestock pest control, and here again a selling program is needed to encourage their use.

Although the horn fly can be controlled readily and for long periods with chlorinated hydrocarbon insecticides, these materials are less effective against stable flies and other biting flies. The reason is that horn flies rest on cattle almost continuously, whereas the other biting flies rest on animals only long enough to take a blood meal and the exposure time is usually too brief to cause mortality. Repellents or rapid-acting insecticides are therefore needed for control of these insects. Synergized pyrethrum and allethrin and the thiocyanates are the only currently available materials with these characteristics. These

(Turn to Page 165)

Milk Ordinance and Code Revised

Milk and Food Sanitation Advisory Board, USPHS, revises Code to cover quaternaries, adds new section for detergent-sanitizers

A REVISION of Section 2, Chemical Bactericides, Appendix F, Milk Ordinance and Code and a new section covering Detergent-Sanitizers have been added it was announced late last month by the Department of Health Education and Welfare, Public Health Service, Bureau of State Services, Division of Sanitary Engineering Services. The complete text of the revised and new sections, as they will appear in the third printing of the Milk Ordinance and Code-1953 Recommendations of the Public Health Service, are reproduced below.

THE Public Health Service Milk and Food Sanitation Advisory Board, at its March 1955 meeting, recognized the advances which had been made in the formulation of products for the combined cleaning and bactericidal treatment of certain types of milk utensils and equipment. The Board also recognized recent research which established soluble salts of calcium and magnesium as the primary cause of interference of natural waters with the bactericidal effectiveness of quaternary ammonium compounds, and endorsed procedures whereby the usefulness of such products in individual water supplies may be judged by testing for water hardness. In addition, the Board accepted a proposal to incorporate an alternate procedure for testing bactericides without direct comparison to chlorine. Accordingly, Section 2, *Chemical Bactericides*, Appendix F, Milk Ordinance and Code, has been revised, and a new section, *Detergent-Sanitizers*, has been added. These sections as they will appear in the third printing of the Milk Ordinance and Code-1953 Recommendations of the Public Health Service, are reproduced below.

APPENDIX F. BACTERICIDAL TREATMENT

1. Steam and Hot Air

(This section is the same as it appears in the first and second printings of the Milk Ordinance and Code-1953 Rec-

ommendations of the Public Health Service.)

2. Chemical Bactericides

(a) *General.* Certain chemical compounds are effective for the bactericidal treatment of milk utensils, containers, and equipment. The bactericidal activity of such compounds is influenced by temperature, hydrogen-ion concentration (pH) and, in some instances, by interfering substances in the water in which they are used.

The exposure period of 2 minutes and the concentration of solutions for specific bactericides, as stated below, or determined in accordance with the procedure and criteria suggested in sub-section (g), are for use when the solution temperature is 75° F. or above. Lower solution temperatures result in slower action; for each 18° F. drop in temperature, approximately double the exposure time is needed to achieve equivalent bactericidal action with the same strength of solution. It is also possible to compensate for lower temperatures by increasing the concentration of the bactericide. However, the amount of increase needed varies with different bactericides and can best be determined by experimental procedures.

Hydrogen-ion concentration (pH) has a pronounced effect on the activity of bactericidal solutions. Consequently, solutions should be maintained in the pH range within which the bactericidal agent is effective. In most cases, the pH of the solution is dependent upon the buffering action of the compound used. The pH of bactericide solutions can best be determined electrometrically, using the glass electrode. However, for a field test, colorimetric methods are more applicable. Two types of field-test kits for such determinations are available commercially. Colorimetric readings should be made immediately, because of the tendency toward oxidation and decolorization of the indicator. Such indicators as brom thymol blue, cresol red, thymol blue, or others, are satisfactory, depending upon the pH range desired.

The activity of chemical bactericides may also be adversely affected by ingredients in washing compounds and organic matter carried over from the wash solution. Consequently, a rinse between washing and bactericidal treat-

ment is important in maintaining strength of solutions. Similarly, deposits of milk solids on utensil surfaces interfere with bactericidal activity, and chemical bactericides cannot be relied upon unless the surfaces to be treated are clean. (See Section 3 of this Appendix, entitled *Detergent-Sanitizers*, for single-stage operations.)

(b) *Chlorine Bactericides—Hypochlorites.* Either calcium or sodium hypochlorite (powder or solution) is a satisfactory chemical bactericide. Alkaline hypochlorites are slower in germicidal action than are the less alkaline compounds; however, their slowness in germicidal action is compensated for, to a degree, by their greater detergent action.

Hypochlorite solutions should be made up in a concentration of at least 100 ppm of available chlorine, and should be discarded when the concentration drops below 50 ppm of available chlorine. Some hypochlorite products are more highly concentrated than others, and the manufacturer's directions should be followed in making up solutions of desired concentration. Test procedures for periodic checking of concentrations of available chlorine are described in (c) below. An exposure period of at least 2 minutes should be maintained when the temperature is at least 75° F. (See sub-section (a) regarding lower temperatures.) Under these conditions, an exposure of 2 minutes is considered adequate for all hypochlorites, including the slower, more alkaline compounds. Hypochlorite bactericides cannot be relied upon in the presence of large amounts of milk or other organic matter. When spray is used in lieu of immersion, the above specified concentrations of available chlorine should be double. Hypochlorite solutions, should not be used again for bactericidal treatment, but may be used for other purposes.

Organic Chlorine Compounds. The bactericidal action of Chloramine-T (sodium paratoluene sulfonylchloramide) is considerably slower than that of hypochlorites, and is significantly affected by pH. For example, at pH 7.0, solutions containing 250 ppm have been found to provide effective bactericidal treatment in 2 minutes, whereas at pH 8.5, 20 min-

utes were necessary. (See "Effect of Concentration and Reaction (pH) on The Germicidal Activity of Chloramine-T," by Geo. R. Weber, *Public Health Reports*, 65:503-12, April 14, 1950.) In view of this retarded action under alkaline conditions, the practical value of Chloramine-T is substantially limited to situations where long exposure periods are practicable, or where a low pH can be provided.

Chlorinated hydanotin and chlor-amyelamine are other organic forms of chlorine which are usually compounded with wetting agents or other detergents, and with chemicals, to lower the pH. Under acid conditions, their solutions are more effective as bactericides and are somewhat comparable to hypochlorites. The bactericidal effectiveness of these compounds is dependent on their specific formulation. Accordingly, conditions of use, including concentration, should be established from experimental data. Suggested methods and criteria are given in sub-section (g).

(c) *Tests for Chlorine Strength.* Three types of field tests are satisfactory for chlorine-strength determinations: (1) starch-iodide method, (2) ortho-tolidine colorimetric comparison, and (3) ortho-tolidine precipitation.

Starch-Iodide Method. This test makes use of the fact that chlorine displaces iodine from potassium iodide at an acid reaction (low pH). (See page 232, *Standard Methods for the Examination of Water and Sewage*, 10th edition, American Public Health Association.) Iodine plus starch, forms a blue color which is removed (decolorized) by the addition of standard sodium thiosulphate. The quantity of standard sodium thiosulphate required to remove the starch-iodine color is a measure of the chlorine present.

Field kits are available which give satisfactorily accurate readings of available chlorine. In some of these kits, the starch and potassium iodide are mixed in dry form, for convenience of handling. Some use a liquid acid, while others employ, for convenience, a crystalline one, such as sulphamic acid. The sodium thiosulphate is unstable unless a preservative is added. Some test kits make use of a preserved standardized sodium thiosulphate so that one drop of solution is equivalent to 10 ppm of available chlorine. By this procedure, it is possible to get reasonably accurate readings of residual chlorine in terms of ppm of available chlorine. Test kits should be checked periodically against standardized chlorine solutions.

Ortho-Tolidine Colorimetric Comparison. This test is based on the fact that ortho-tolidine, which is colorless, forms an orange-brown colored compound when added to chlorine. The depth of color is a measure of the amount of chlorine present. As noted below, concentrations of 20 ppm of available chlorine cause a precipitate. Consequently, solutions which are concentrated must be diluted, usually at least 1:10, with chlorine-free water. Specific directions and color standards for

comparison are included in test kits which are available commercially. Color develops more slowly with alkaline hypochlorites than with the less alkaline compounds. Chloramines are considerably slower than alkaline hypochlorites in color formation, usually requiring at least 5 minutes.

Ortho-Tolidine Precipitation. This test, developed by the Public Health Service, makes use of the fact that, when the proper amount of ortho-tolidine is added to a hypochlorite solution containing 20 ppm of available chlorine or more, a precipitate is formed. Alkaline hypochlorites form this precipitate more slowly than the less alkaline compounds.

The testing outfit consists of two 7/16 x 4-inch tubes, one containing ortho-tolidine, and the other, fitted with a medicine dropper, used for testing the hypochlorite solution. It is etched at the 2-milliliter and 5-milliliter levels, making possible the dilution of the solution to be tested to two-fifths of its original strength, thus diluting an original solution of 50 ppm or more to one of 20 ppm or more, which, as above stated, is the critical point for the formation of the precipitate when hypochlorites are tested.

Before making any tests with the apparatus, test the medicine dropper to determine that it delivers drops of the proper size. To do this, simply count the number of drops required to fill to the first mark of the testing tube. The number required is between 30 and 50. The test procedure is as follows:

- (1) Rinse the testing tube and its dropper thoroughly with clean water.
- (2) Fill the testing tube to the lower mark with the chlorine solution to be tested, using the dropper for this purpose. Avoid including floating particles.
- (3) Fill to the higher mark with clean water, again using the dropper.
- (4) Add one drop of ortho-tolidine.
- (5) Hold the upper part of the testing tube firmly with one hand and tap the lower end of it sharply 50 times with one or two fingers of the other hand.

(6) When reddish or brownish particles separate out within five minutes, the hypochlorite solution tested contains at least 50 ppm of available chlorine. For alkaline hypochlorites in the range of pH 11, this may require 15 minutes.

This test is not recommended for chloramines.

Quaternaries

(d) *Quaternary Ammonium Compounds.* Research and field studies have indicated that some quaternary ammonium compounds are effective bactericides for the treatment of milk utensils, containers, and equipment. The bactericidal effectiveness of specific quaternary ammonium compounds varies, and is influenced by the concentration of active agent, temperature, pH, and exposure time, and by interfering substances present in natural waters. A recent study ("Bactericidal Efficiency of Q.A.C. In

Different Waters," by Chambers, Kabler, Bryant, Chambers, and Ettinger. *Public Health Reports*, 70:545-554, June 1955) has established that the interference of natural waters with quaternary ammonium compounds is due principally to bicarbonates, sulphates, and chlorides of calcium and magnesium. Ferrous bicarbonate was also found to interfere to a lesser degree but its interference is minimized when the iron is oxidized. Any treatment which tends to precipitate, remove, or inactivate calcium or magnesium, reduces the interference as do increased pH and temperature.

While some quaternary ammonium compounds remain effective through a considerable range of water hardness, others require modification of formulation to maintain satisfactory bactericidal effectiveness. The value of sequestering agents in reducing the interference of hard waters has been demonstrated. Products containing alkyl ($C_8 - C_{18}$) dimethyl benzyl ammonium chlorides, para diisobutyl phenoxy ethoxy ethyl dimethyl benzyl ammonium chloride, alkyl ($C_9 - C_{15}$) tolyl methyl trimethyl ammonium chlorides, or didodecyl dimethyl ammonium chloride have been found to be bactericidally effective in waters containing up to 500 ppm of hardness when compounded with sufficient tetrasodium pyrophosphate to provide 0.2 percent concentration in the use solution, and when used (1) at concentrations of 200 ppm or more, (2) at pH levels of 6.0 or higher, (3) at temperatures of 75° F. or higher, and (4) for a two-minute exposure period.

The above-named compounds without sequestering agents are also effective within certain limits of water hardness under the conditions of use enumerated above; however, the level of hardness at which bactericidal activity is reduced below that necessary for effective treatment varies among the four named compounds and may be influenced by other ingredients in a proprietary formulation. Accordingly, the limiting hardness should be established for the use of each quaternary ammonium product. Unless stated on the label,¹⁸ the health officer should request such information from the manufacturer.

Until such time as a reliable chemical test is developed which will indicate the bactericidal efficiency of quaternary ammonium compounds, bacteriological data should be used to establish the usefulness of quaternary ammonium compounds and sequestering agents other than those named above, or the above-named compounds for use (1) at temperatures less than 75° F., or (2) at a pH below 6.0, or (3) when combined with a compatible sequestering agent in waters above 500 ppm of hardness, or with less than the specified amount of sequestering agent. Suggested methods and criteria are given in sub-section (g).

(e) *Tests for Quaternary Am-*

¹⁸Labels on bactericides shipped interstate are subject to the provisions of the Federal Insecticide, Fungicide, and Rodenticide Act, and must be registered with the U. S. Department of Agriculture.

monium Compounds. Chemical test procedures which will differentiate between the amount of quaternary present and the amount bactericidally active during or after use have not been established. Accordingly, such tests as are available will provide only a measure of how well a fresh quaternary solution meets the conditions described in sub-section (d). Field kits are available which give satisfactorily accurate readings within the range of quaternary concentrations recommended in sub-section (d). In some the reagents are tableted for convenience of handling; others make use of test papers. Some test kits have a limited usefulness under field conditions, hence, a test kit should be checked against a standardized quaternary solution in waters sequestered as indicated in sub-section (d). If there is reason to verify the concentration of the stock quaternary solution from which the standardized solutions are made, a laboratory procedure, such as that of Furlong and Ellicker (*Jour. Dairy Science*, 36:225-234, March 1953), may be used for this purpose.

(f) Tests for Water Hardness. The water to be used for preparing solutions should, if pertinent, be within the range of hardness in which the proprietary formulation to be used is effective. Hardness may be determined by either the Soap Titration Method or the EDTA Titration Method, Ammonium Buffer Procedure, as described in the 10th edition of *Standard Methods for the Examination of Water and Sewage*, published by the American Public Health Association.

(g) Other Bactericides. Bactericides other than those covered in sub-sections (b) and (d) are also available which are suitable for use on milk equipment. Compounds containing bromine and iodine have been found to be effective for bactericidal treatment. In addition, other types of chemical agents are being compounded into proprietary formulations for the bactericidal treatment of milk equipment; however, their bactericidal effectiveness varies with specific formulations. Such compounds should be safe, and the recommended conditions of usage should provide bactericidal treatment at least equal to that given by 50 ppm of chlorine as hypochlorite at pH 10.0, at a temperature of 75° F., and with an exposure period of 2 minutes.

The bactericidal efficiency of chemical compounds may be evaluated without direct comparison to chlorine. Suitable data may be obtained by use of a bacteriological test procedure, such as that proposed by Weber and Black (*Amer. Jour. Public Health*, 38:1405-17, 1948), or the Chambers modification thereof (*Germicide Memorandum No. 1*, Public Health Service, Robert A. Taft Sanitary Engineering Center, Cincinnati, Ohio, dated January 20, 1955). These tests provide better comparative data at an endpoint somewhat less than total kill of the test cultures. Therefore, the test time is less than the 2-minute exposure period prescribed in the Code. Bactericides which, in recommended

concentration, produce a 99,999 percent kill of 75-125 million *E. coli* ATTC 11229 and of 75-125 million *M. Pyogenes* var. *aureus* FDA 209 per mL, within 30 seconds, at 70°-75° F., should be considered satisfactory. Swab tests of treated equipment do not furnish sufficient data for this purpose.

Valid data can be obtained only when stock cultures and suspensions of the test organisms are prepared in a manner that uniformly maintains their normal level of resistance to germicidal action. Periodic checks to determine the consistency of test results, using a well-known chemical, such as phenol, may be helpful in this regard. The importance of adhering strictly to the composition of media and manner of transplanting cultures specified in the test procedures cannot be overemphasized.

(h) Treatment of Equipment Other Than Bottles and Pails. The treatment of milk cans, coolers, bottling machines, milking machines, other equipment, and all parts thereof, requires special consideration. Large equipment may be treated by thorough swabbing with a bactericidal solution of adequate strength, allowing the solution film to remain at least two minutes. Rubber milking-machine parts can be satisfactorily treated by immersion for two minutes in water at a temperature of at least 170° F. They may be left in a bactericidal solution until the next milking. Rubber parts may be treated, also, by filling with or immersing in a 0.5 percent lye solution. Before further use, the lye solution should be drained off and the parts rinsed. (For report on the use of lye solutions, see: *Michigan Circular Bulletin No. 218*, October 1950. J. M. Jensen *Practical Sanitation in Caring for Milking Machines*.)

3. Detergent-Sanitizers

Bactericides are sometimes combined with detergents in proprietary formulations for the cleaning and bactericidal treatment of milk containers, utensils, and equipment in a single operation. Such use has been reported to be effective under certain conditions for the cleaning and bactericidal treatment of dairy-farm equipment, milk-transportation tanks, and similar equipment. To be effective, the bactericide and detergent must be compatible. Some bactericides and some detergents cannot be combined in solution without impairment of bactericidal properties, cleaning properties, or both. In addition, the activity of the bactericide in a detergent-sanitizer is likely to be reduced more rapidly by organic matter in a combined operation than when bactericidal treatment is a separate process.

In view of the above, the usefulness of a detergent-sanitizer for the combined cleaning of milk-contact surfaces is dependent on both the composition of the product and its intended use. Suggested criteria, for use by the health officer in judging the effectiveness of a detergent-sanitizer and its

use in a single-stage operation, are as follows:

(1) The detergent-sanitizer is composed of effective and compatible bactericide and detergent ingredients.

(2) The material's employed are safe, as judged by the freedom of the equipment from residues in amounts that could be toxic to persons consuming the products which have been in contact with the treated surface.

(3) Recommended conditions of use result in milk-contact surfaces which meet the cleanliness criteria expressed in Items 13r or 12p of the Code.

(4) When solutions are prepared and used as recommended by the manufacturer, the bactericidal strength remaining at the end of the operation will be sufficient for proper bactericidal treatment. (See Section 2 of this Appendix for minimum concentrations of bactericides.)

In order that conformance to (4), above, may be assured under conditions of practical use, there should be established relation between the amount and kind of surfaces to be treated and the quantity and concentration of the solution provided. Single-stage operations are most applicable to situations where the load of utensils, containers or equipment to be cleaned does not vary widely from one operation to another. The efficient removal of milk solids by a pre-rinse, also helps to maintain the bactericidal strength of the solution.

Since bactericidal treatment by a single-stage process would, in all probability, be accomplished well before usage of the equipment, the process would not be applicable unless equipment so treated is so handled and stored that no contamination of milk-contact surfaces occurs between treatment and usage. However, equipment which is assembled while still wet with solution, and which is subsequently stored under protected conditions, should be considered satisfactory. Similarly, rinsing after treatment may introduce contamination and, if such rinsing is necessary to remove residual compound, it should be accomplished with water that has been treated with heat or chemicals to assure freedom from viable pathogenic or otherwise harmful micro-organisms.

— ★ —

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MARKET RESEARCH

By W. S. Jessop

U. S. Sanitary Specialties Corp.

Part II

THERE are numerous problems of geographical breakdown and maintaining the statistics as up to date as possible. This is essential in a rising, or fluctuating, economy and with an increasing population, both of which shift geographically even within short periods. The various Censuses are published at long intervals. That on population every ten years, the last being 1950. Those on manufacture and Retail Trade were published both in 1954, seven years or so since the previous one. Such a problem requires professional attention which takes it out of the "Do it Yourself" class. Luckily, this is done for the last two series by the two publications already mentioned. Unfortunately, figures on population are not kept up to date, which is something either of the two publications might do to fill the void. As a result this series cannot be obtained until the results of each succeeding government Census of Manufactures is published.

Consideration must constantly be given to maintaining up to date statistics so that it is advisable to renew them at not too protracted intervals. In five years they will probably be obsolete.

Having selected the right statistics, we must give them effective weighting, the second of our prerequisites.

To treat these all on a par without weighting is tantamount to saying that sales to these three

sectors are equally divided. In most instances it is a matter of firm company policy to point their salesmen primarily to one of these sectors (or in some instances even to a subdivision.) This policy will then have to be reflected in the weighting.

The simplest way of doing this is through the sales analysis described earlier. Find out during a representative period what percentage of total company sales went to each of these sectors. For example, say that institutional sales were 44 4/9%, retail sales were 22 2/9% and industrial 33 1/3% which to bring to round figures would be 5:2:3. These would be the respective factors by which to multiply each of the three indices, respectively.

However, if your sales analysis does not in your opinion reflect the optimum distribution of your sales in the three categories, do not perpetuate this, but select as your weighting factors the proportion each should bear.

Having worked out our weighting factors, we should now return to the original indices and proceed to multiply them by their respective factors, add them together and divide by the sum of all the factors, (which in the case above is 10) which will thereby give you your own Sales Potential Index.

One other thing should also be borne in mind. If your experience shows that in a specified area

the indices are not comparable to the rest of the county, then some adjustment of the weighting may be desirable. For example, in New York county and, perhaps, to a lesser degree in Bronx county, there is considerable manufacturing activity. Because of this condition these areas do not call for sanitation supplies in the same way as other factory areas. Because New York City, Chicago and Los Angeles are great national buying centers, the index for retail sales may be considered out of scale. Then you should consider for the purpose of equalization whether or not your weighting factors should be amended somewhat in these localities.

This step can be taken for each county or city before punching the cards. But as it is laborious and the chances are that these will never be required singly but in aggregates of counties and cities falling into a basic trading area or sales territory, it would be more effective to delay this weighting operation until they are aggregated and merely punch the actual percentage on the cards.

As will be seen later the weighting of the indices will have an important bearing on analyzing the total sales potential of any area.

However, as will also presently appear, we have found it essential to divide the county indices in two. Where individual percentages are available for a city or cities in the county, these become the county urban indices and when

...about detergents

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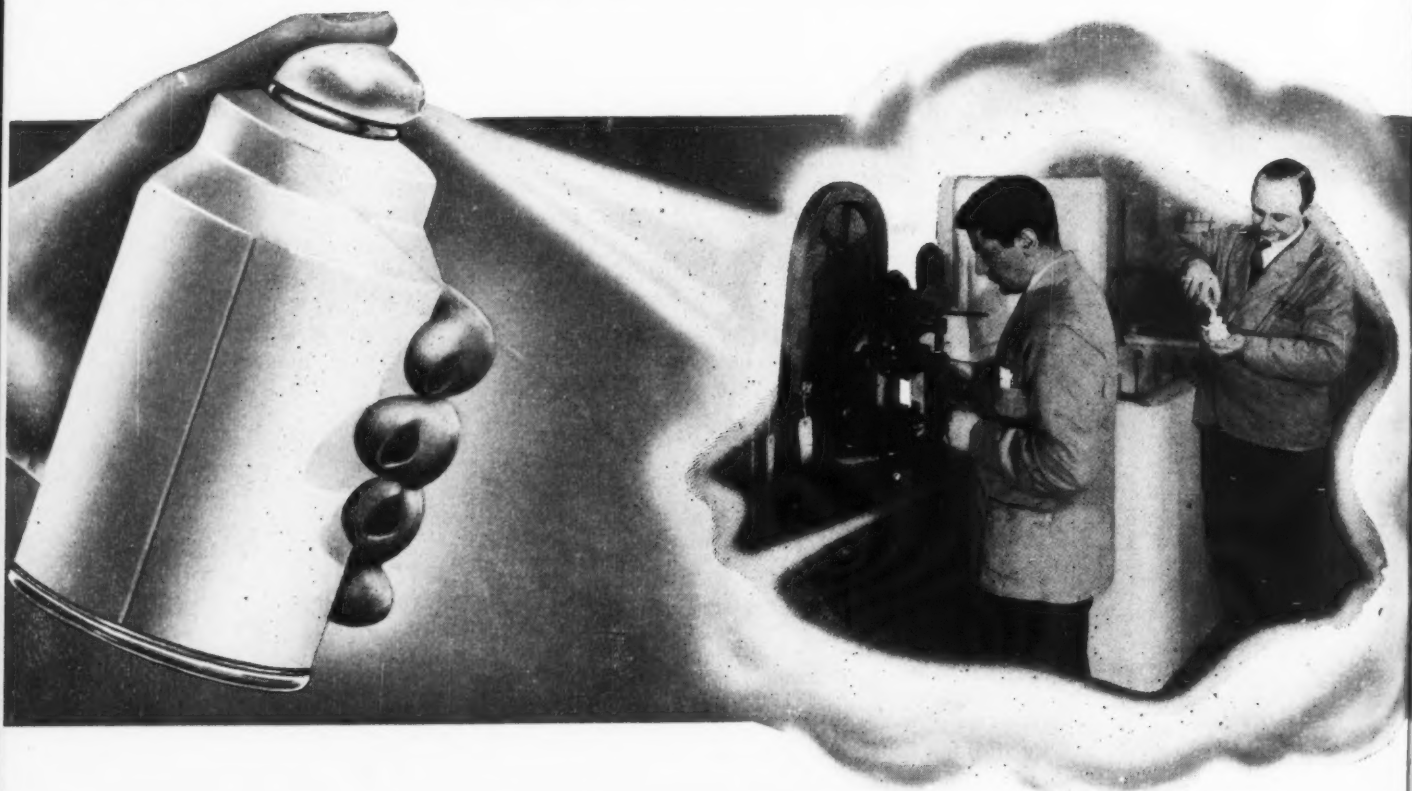
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subtracted from the total county indices the remainders become the county rural indices.

At this stage we now have all the relevant statistics to use for forecasting sales potential in any county or group of counties throughout the U. S. of which there are 3073, counting the District of Columbia as a county. This is, however, a rather unwieldy mass of information and as such, difficult to handle and digest.

Maps

THIS brings us to the second ingredient in our pie: maps. From our own experience we have found that in setting up our territories heretofore, we have been prone to do this on a haphazard basis influenced considerably by the location of the territory's salesmen and the boundaries of other territories.

Doing this is like reading a map without any regard to its topographical features. Using a map, like employing statistics, has now become scientific. There are a

number of features, which require consideration such as the physical nature of the area, mountains, rivers and lakes, the presence or absence of good highways and how they radiate; the location of population with some consideration to their buying habits. This is a professional job but, again, happily, has been professionally accomplished for us by a number of good authorities, such as Rand McNally, Dartnell Corp., Hearst and Curtis Publications or the American Map Co.

For our purpose we have chosen the Rand McNally & Co. trading area map of the U. S. for a number of reasons;

(1) It is not broken down too fine. There are only 67 major trading areas divided in all into 464 basic trading areas, which by themselves in many cases are too small to rank as a sales territory.

(2) These trading areas have been arrived at from a study of geographical and topographical features together with consideration of the local populations' buying habits.

(3) Consideration is given also to distribution and transportation, to reading habits of local newspapers as regards advertising, etc.

All in all these trading areas or a combination of them become a logical foundation for designing new sales territories or redrawing current territories where possible to conform.

For this purpose, too, each basic trading area is broken down into counties. Thus, in addition to the urban and rural sales potential index for each county and its area, we can give it a basic trading area number.

For our own purposes we also put against each county our own sales territory number.

At this point we have the information available to arrive at a quantitative sales potential index for any combination of counties in the U. S., urban and rural area. It can be seen that listing these various combinations would be a tedious and lengthy job if done manually and, there again, is where our third tool, the punch card system, fits into the plan. By punching each county with all its information we can sort by trading area or by territory and merely tabulate the results.

Punch Card System

IT is clear that the mass of statistics and other information as assembled can only be handled mechanically. Because of the various combinations and aggregates that may be required the logical method to use is that of punch cards. As shown in the first part of this article we have favored the Samas punch card system as being most suitable for businesses of the size for which this article is written. It should be noted that there are in the consumer market research field, IBM punched cards already punched for various different requirements and available through a number of professional market research consultants. It is to be hoped that there will be Underwood Samas cards punched as shown here-

Operator in author's office using the Underwood Samas punch card unit for recording data on products, areas, selling price, salesmen's commission, etc.



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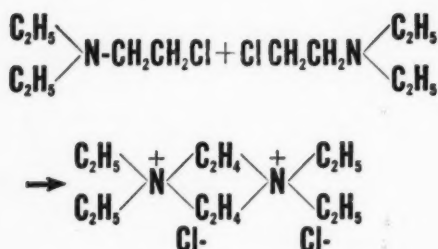
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Let us summarize at this stage the information we have at present assembled and which we want to use:

- (1) County numbers. This should be headed by a two figure state code identical to Fields 4 and 5 of the sales analysis card. The next three numbers should identify the county as alphabetically listed for each State. Fields 1 through 5.
- (2) Basic trading area number from Rand McNally. Fields 6 through 8.
- (3) Your own sales territory number. Fields 9 through 11.
- (4) Quality indicator (optional) per later explanation. Fields 12 through 14.
- (5) Area to the nearest hundred square miles. Fields 17 through 20.
- (6) Population spending or institutional index to three places of decimals. Fields 21 through 25.
- (7) Retail sales index similarly. Fields 26 through 30.
- (8) Manufacturing added value index similarly. Fields 31 through 35.
- (9) Sales potential index (if you wish to weight individual indices per county). Fields 36 through 40.

Two cards will be required for each county, one giving its rural indices and the other its urban indices omitting the area (No. 5). (You may wish to put each of the cities on a separate card.)

The first three and number 5 are fixed and should, in the ordinary course of events, remain constant. The sales territory number can be changed to meet the company's domestic conditions but in the ordinary way becomes eventually crystallized in most cases.

The last four are, as we have seen, variables.

With three controlling areas: state, trading area and sales territory, in 3073 counties requiring the listing and additions of five sets of indices plus the area, it can readily be seen that the only flexible and economic system is to put all these

five factors on a punch card for every county. This becomes especially advisable where it may become necessary to exchange counties between territories (which may become desirable in comparison with the basic trading areas.)

The quality indicator is by its name a qualitative statistic and not a quantitative one. It can be developed to show how your sales in any particular area are reaching up to their established sales potential. In this way it is a unit of efficiency. It is formed by dividing the actual sales by the sales dollar potential.

We have thus assembled all the information and statistics on punch cards and now it is a case of using them. First, as an arithmetical check, the cards should be sorted by State and the totals from the tabulator compared with the State totals printed in "Consumer Markets" or "the Survey of Buying Power" and for the area with the total in the Census of Population.

Assessing Sales Potential

THE cards should next be sorted by sales territories and the totals tabulated. As all these indices are percentages of the national totals, they must first be weighted. At this stage you only have a comparison of potential of one territory with another. It is necessary then to pick a yard stick such as a territory (presumably the one in which your home office is situated) which can be considered the one in which the best results have been obtained.

In our case we chose the Chicago Metropolitan district, in which we have a number of salesmen. We knew that although there was, as there always is, room for expansion yet this was our best saturated area and therefore could best be used as a yardstick in this case, as it is advisable to do in all conurbations. "Conurbation" is a neologism coined to describe the vast new complex metropolitan areas, which may be spread over several counties and which may cover more than one state. For instance, the New York conurbation can be taken to include not only

the five boroughs, but the Westchester, Nassau and Rockland counties in New York; parts of Fairfield county Connecticut and Bergen, Passaic, Hudson, Union and Middlesex counties in New Jersey. Put the full sales potential index under urban and show rural as zero. Taking actual sales over a fixed period - month, quarter or year; for instance, you can then determine an equation of the sales potential index. Thus, Chicago Metropolitan District Sales Potential Index is about 6.000 and its annual sale is X dollars, then each whole percentage point all over the country should have a value in sales of x-6 dollars.

We found two inequities in this calculation. One that such an equation was possible for territories comprising conurbations but not those covering wide areas and, second, that a time factor is necessary in assessing new or young territories. It seemed that in these days of rapid communication and transportation, taking account of the distance from home office or a divisional office would be negligible. In regard to the first, each user of this system must develop his equation further if it is to be valid in all territories. As this may vary with each user I shall give our experience as a suggestion only. We first examined two or three territories, in which it was thought we were getting a comparable return to the yardstick territory, taking into account the area the salesmen had to travel. Then by a system of trial and error we arrived at a formula, which was within plus or minus 5%. In these territories you added to their urban sales potential, their rural sales potential in proportion the area of the yardstick sales territory bears to the area of the sales territory under review.

This gave us sales potential index for the territory. Example: The Chicago Metropolitan District has an area of approximately 5000 square miles. The rural sales territory has an urban sales potential of 0.700, a rural of 1.600 and an area of 20,000 square miles. Based on

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Onion Maggot
Onion Thrips
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Seed Corn Maggot
Sheep Ked
Silverfish
Sod Webworms
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...and many others.

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for each formulation. Also . . .

- ✓ LOWER PRODUCTION COSTS
- ✓ LESS MONEY IN INVENTORIES
- ✓ SIMPLIFIED MERCHANDISING AND SELLING
- ✓ CONCENTRATED SALES PROMOTION EFFORTS

CASH IN ON CHLORDANE ACCEPTANCE

Chlordane is the insecticide that's nationally accepted. Chlordane's effectiveness has been widely proved by experiment station tests and 10 years of field use throughout the country.

Take advantage of the advertising, promotion, and acceptance of Chlordane . . . push Chlordane in 1956!



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the above formula its full sales potential is 0.700 plus 1.600 multiplied by 5000 and divided by 20,000. This equals 1.100 (0.700 + 0.400) and based on the first equation equal to $\frac{x}{6}$ 1.1 dollars annually, and not

$\frac{1.9 \times X}{6}$ dollars.

This formula and equation is satisfactory in tried and true territories, but it really is unfair to expect 100% results from new and young territories. Each user would then have to determine a time factor based on his own past experience in the development of his sales territories, being sure to compensate not only for his change in selling prices over the years, but also taking into account increase in the national product. Our own experience for what it may be worth to others, gave us the following table:

	sales potential
In the first year	20%
" " second "	30%
" " third "	45%
" " fourth "	65%
" " fifth "	85%
" " sixth "	100%

This was predicated on one salesman during the six years. If there is a turnover, the rate of increase to the full sales potential will be slower to a certain extent. If the sales territory remains vacant for too protracted a period (a year or more) on its next filling you would have to start once again as if it were a new sales territory.

In this way the sales executive can assess whether the territory is yielding its proper potential. Reverting to the industrial, retail and institutional categories, by calculating potential in each of these sectors, he can compare their characteristics with the actual performance in these sectors obtained from the sales analysis. In other words, having now assessed in dollars his total sales potential by applying appropriate weighting factors he can further analyze this potential into what can be expected from the three sectors. (For example, where as indicated previously, weight factor for institutional, retail and industrial was

5:2:3, respectively, and x was dollar potential, then institutional potential would be $\frac{5 \times X}{10}$, retail, $\frac{2 \times X}{6}$ and industrial $\frac{3 \times X}{6}$)

Estimating New Territories

THE results statistically are obtained as the foregoing, but the beauty of this system is that it takes away a great deal of the guess work. By building up a new sales territory on one basic trading area and adding others to it, as potential and area require, you will create as scientifically as possible an optimum sales territory. Further, by breaking down the sales potential into the industrial, retail and institutional sectors a more comprehensive view is obtainable and so a better job of directing the salesmen is possible.

Aerosol Coatings

(From Page 145)

to the strong solvents used, and the insurance of a clog-free valve.

In production, take every precaution to insure having a uniform mix loaded into each and every can. Proper agitation to maintain suspension of the mix and effective control of evaporating solvents are critical elements in successful loading.

The *gimmick appeal* of many aerosol products is ending. The American public has accepted the novelty, the convenience, the speed, the professional results, and the premium price it must pay for spraying itself and its belongings with surface coatings of one kind or another.

The time is here for loaders and marketers of aerosol products to slow down on the gimmick items that live briefly on forced feeding of heavy promotion and sometimes false claims. Many of these "once-only" items have left a bad taste in the minds of the jobber, dealer, and customer. Those items hurt our industry.

Far be it from me to discourage new thinking, new prod-

ucts, or aggressive marketing,—but I urge that we do not forget four basic and cardinal road signs:

1. Make sure that your aerosol product is economically justified that it satisfies a real need, and doesn't depend on a fad or gimmick appeal.

2. Check and double-check your product's performance, its results, and its shelf-life. Check its effects upon other materials, as well as its possible effects upon people's health and safety. Slipshod methods and insufficient development work and controls can only prove disastrous to anyone's brand name, facilities, and profits.

3. Market-test your product in a few sample market areas, before you try to swim in the national pond. The big companies don't jump into national distribution overnight with a new and untried product, for very obvious reasons of responsibility and self-preservation. It pays to walk before you run.

4. Price your product high enough to advertise and promote its merits. You have all seen some of the results that eventually befall the "deal and discount" chiselers who live on the coat-tails of the brand leaders . . . you don't sell price-cutting, you sell performance. You sell profit-making merchandise that serves a legitimate useful need in the lives and minds of people. Price your tested product low enough to encourage re-ordering by satisfied customers who have received a *good value*.

The average new product making its appearance in today's highly competitive market place faces a greater possibility of failure than ever before, unless the warning signs of failure to merchandise and market the product properly are heeded. If statistics foretell the risks of marketing a new product, consider the fact that of over 900 drug-store items which were introduced in 1954, less than 50 remain on the market today.

KILL

the odor

in insecticides
and other strong
smelling chemical
specialities with

MALASCENT

Here is a new and amazingly effective reodorant for insecticide formulas. It quickly, efficiently and economically covers and neutralizes the unpleasant odors so often present in products used for pest control. Only ¼ ounce is necessary to reodorize a full gallon of insecticide formula — either oil or water based. Why not order a trial pound for your own tests. The low, low price is only \$3.00 per pound.

**Reodorize 1 gallon of
insecticide for only 4½ cents**



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But let me repeat, the lack of product research and consumer testing are only a part of the inevitable warning signs. Failures follow a pattern: they usually lack sufficient funds, marketing organization, and merchandising know-how (including proper packaging and instructions for correct use of the product).

The C. S. M. A. survey figures show a decrease in aerosol enamels and lacquers for 1954 vs. 1953 after rapid increases in 1951, 1952 and 1953, whereas all other categories show dramatic increases from year to year. I question whether the coating figures reported are complete, for as a case in point, the sales curve in my own company on aerosol enamels and lacquers has shown a healthy upswing each year since 1952. However, the implication is noteworthy: once the gimmick appeal of a product is ended, you have got to deliver "value received for money spent."

Perhaps I have overstressed the precautions and ground rules of successful manufacturing and marketing of aerosol lacquers and enamels. But they are offered in the interests of protecting and increasing the long-range market for the very practical, handy, economical, aerosol dispensers of protective coatings.

Harley Soap Co.

(From Page 50)

is manufactured in 10,000 pound batches and poured liquid hot into frames. When it has cooled and hardened, the frames drop by the sides and the huge slab is cut into slabs, then cross cut into the two-pound cakes.

Just recently, a new division of Harley Soap, called the Willet Products Co., was formed. This division handles the packaging of pine jelly soap and pine oil disinfectant in small containers for the consumer trade and is distributed through pharmaceutical houses, chain stores and markets. Shampoos are also

bottled under private label brand. These are in 8, 12, 16 ounce and two pound jars.

In 1953, Robert Solly assumed the presidency of the company with the elder Charles Solly becoming its secretary and treasurer. Plant superintendent, Robert E. Gundel, is the vice-president.

Perfumers Study . . .

(From Page 55)

role of fragrances in personality development, Dr. Stein said.

"An Olfactory Aptitude Test for the Selection of a Perfume Panel" was described by Gustav Carsch, chief perfumer, Toni Co., Chicago. The purpose of the test, Mr. Carsch said was to find persons with good perception over a full range of odors and to find those with poor perception and to eliminate them from the panel. Using multiple modified triangle tests, in which combinations of three fragrances were compared, some identical pairs, others using the natural oils and their aromatic chemical counterparts, olfactory aptitude of employee panels was evaluated. Of the 68 Toni Co. women employees taking part in panel tests, 34 percent had a score of 22 or better, which was excellent, with a top score of 27; one percent had the worst score possible, 40 percent rated "fairly good" and 26 percent did poorly. The most important result of these tests was finding out that one out of every four individuals had poor olfactory power and should not be on an olfactory panel. From the group participating in the test, 15 persons were selected who had excellent olfactory power and another 15 with scores of 21-22 were available for reserve use on future panel tests.

A good product launched with poor psychological preparation may fail, whereas a poor product with good psychological preparation may succeed, Irving Gilman, vice-president of the Institute for Motivational Research, Croton-on-Hudson, N. Y., declared. He spoke on the subject of "Perfume and Hu-

man Motivation." Since women purchase perfume products on the basis of irrational as well as rational factors, it is necessary to understand basic motivational forces to operate successfully, Mr. Gilman said. Companies and products have a basic personality, which may be created deliberately. Sometimes the consumers gets a negative impression of what the marketer is trying to instill. A manufacturer has a responsibility to give his product psychological as well as a physical franchise, he pointed out.

A case history of the new "Lifebuoy" soap formed the basis of the talk, "Measuring the Effect of Perfume on Product Acceptability," by Miss Eleanor K. Coen, Consumer Research Manager, Lever Brothers Co., New York. The "old Lifebuoy," with its cresylic acid type odor was liked by men but "hated by women," according to Miss Coen. The problem in changing the "Lifebuoy" odor was to make the new odor acceptable to women and still have it retain its appeal to men. One of the products submitted to a consumer panel was a cake of "Lifebuoy" containing .2 of 1 percent of cresylic acid, against the then standard 2¼ percent, plus the germicidal ingredient puralin with a perfume added. This was preferred three to one over the older formulation. With a different panel the current "Lifebuoy" with only the puralin added was tested. Again the results were about the same. Testing with low and no cresylic it was found a definite preference was established for a bar containing no cresylic. This was true among both men and women. The new product reversed the downward trend in "Lifebuoy" sales.

A similar study was made with "Lux" toilet soap. When the perfume traditionally used for "Lux" toilet soap became unavailable during the war a new perfume was tried. In 1953 the question was raised whether the new perfume could be intensified. This was tried and it was liked better by current users. A new odor, resembling that

We get around...



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of the prewar type was tried in a new soap and it was found to be preferred by non-users and current users. Tests showed that the new soap with the new odor when tested against "Lux" it had greater acceptability. When the new odor was tried in "Lux", it was found that the preference was not as great as with the new soap.

In testing two packaged detergents, both identical except for the fragrance, it was found that the product with the clean odor was thought by users to do a better cleaning job than the same product with a slightly different fragrance.

The advantages of the "Monadic Type Product Test" were described by Henry Brenner, president of Home Testing Institute, New York. This method involves testing one product at a time. Rather than sending two rather similar products to a group of consumers, in the Monadic type test, three different products are sent to three different groups and asking for comparisons with all other similar products on the market. It was found that when two similar products, marked "A" and "B" are sent to one group there is sometimes confusion and product "A" is mistaken for product "B". Generally, people can distinguish between two products only if sufficient difference exists between them.

In panel testing products by the Monadic method, members are asked what they like about a product, whether its odor is right or too strong. The results of such a questionnaire help in development of product characteristics without comparing it directly with another individual product.

The perfume industry today is not at its highest level, Jean Millon, sales manager of Coty, Inc., New York, declared. It has not shared in the upsurge of the economy of the U. S., he pointed out. Toilet waters have done well, but not perfumes, Mr. Millon stated. Some of this may be laid to the fact that there is not much originality in perfumes today and there is too much copying. He compared pres-

ent day sales with those of the '20s when there was much originality and the perfume industry reached its highest level.

"Most sales girls today have nothing to say when it comes to selling perfumes. They sell cosmetics well, but may be weak because of lack or poor training in the sale of perfumes", Mr. Millon explained.

There is a sameness in advertising used in selling perfumes, and there is little good perfume advertising, Mr. Dillon declared. In the '20s there were good photographic illustrations in perfume advertising and good perfume selling, he concluded.

Livestock Sprays

(From Page 148)

Insecticides provide protection for only a few hours to 3 or 4 days and are therefore not practical to use on range cattle, but they may be used on dairy herds and small herds of beef cattle. For several years considerable research has been devoted to the development of long-lasting sprays to protect animals against horse flies, deer flies, and stable flies, but without success.

Ticks affecting cattle are effectively controlled with toxaphene and DDT plus lindane. These and several other insecticides are also available for control of lice on various kinds of livestock. Unfortunately, however, we cannot use our most effective insecticides on dairy cattle because the materials secrete in the milk. The only materials that are recommended for this purpose are methoxychlor and synergized pyrethrum, neither of which is very satisfactory for the control of ticks.

Poison Baits Good

IN the last three years spectacular results have been obtained in the control of resistant house flies with poison baits. The Orlando, Fla., laboratory of the Entomology Research Branch announced research results in 1952 on the use of dry

and liquid sugar baits containing malathion, Bayer L 13/59, or Diazinon. Industry promptly made this type of insecticide available to the public, and there has been wide and successful usage of such materials during the last two years. In most situations excellent control of house flies in barns and other places has been obtained. As was expected, these preparations do not control the blood-sucking stable flies, which rest in and around livestock shelters. It is believed research should be directed to attractants which can be developed into effective baits for the control of this species.

At Kerrville, Tex., and Corvallis, Oreg., research is being conducted to find insecticides that can be used internally to destroy lice, mites, ticks, flies, and cattle grubs feeding on livestock. A few materials have been found which have this systemic action when given orally or injected subcutaneously, but none of them can yet be recommended for general use. However, we believe that the screening program under way will unearth materials suitable for practical use. This type of research is expensive and time-consuming, but the advantages of having safe systemic insecticides indicate the desirability of continuing our efforts along this line.

In summarizing, good progress has been made in the development of insecticides for control of livestock insects, but much more needs to be done. Better protection of animals against biting flies is urgently needed, and, of course there is always room for cheaper and more effective insecticides and methods for controlling other livestock pests. Our research program is dedicated to fulfilling these needs of the livestock industry.

Literature Cited

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Laake, E. W. 1946. DDT for the control of horn flies in Kansas. *Jour. Econ. Ent.* 39:65-68.
U. S. Department of Agriculture. Agricultural Statistics, 1953.

Aerosol Shave Patent

(From Page 53)

elements combine to produce a new and useful result. To the presumption that the finding of the District Judge as to validity is correct, a finding based upon lengthy evidence and the testimony of experts (See *Graver Tank & Mfg. Co. v. Linde Air Products Co.* 336 U. S. 271), must be added the presumptions of validity arising from the fact that the patent was issued by the Patent Office, from the fact that the patented product entered at once into wide public use and achieved outstanding commercial success, and from the fact that it was copied by an infringer who was one of the largest soap manufacturers of the country and who had been trying in vain to develop a similar product but had been unable to do so until the knowledge of one of the patentees was obtained.

2. The Trade Secrets

THE District Judge made the following finding as to misappropriation of trade secrets by Colgate, viz.:

"12. That the defendant Colgate-Palmolive Company has wrongfully and unlawfully misappropriated trade secrets of plaintiff by embodying them in pressurized lather shaving compositions as follows:

"(a) By combining the trade secret of the formula of the soap solution in the plaintiffs' product 'Rise' with diluted Colgate lather cream to make 'Rapid Shave No. 1'.

"(b) By employing in some containers of 'Rapid Shave No. 1' plaintiffs' trade secret in the heat annealing process for polyethylene siphon tubes.

"(c) By combining in a pressurized lather-generating composition a soap solution superfatted with petrolatum, carbowax and excess stearic acid, and embodying said secret combination in its products 'Rapid Shave No. 2' and 'Instant Barber Shave'.

"The above-described trade secret of sub-paragraph (c) was not disclosed or claimed in plaintiffs' United States Letters Patent No. 2,655,480, in suit."

In his opinion the District Judge set forth the facts and chronology upon which the foregoing findings were based as follows:

"We find to be correct, by the weight of the credible evidence, the following chronology of what occurred from the beginning of the development of 'Rise' to the institution of the present suit: March 1, 1949: Spitzer, Reich and Fine began their research and development work, April, 1950: Carter put 'Rise' on the market. May and July, 1950: Colgate analyzed 'Rise,' and endeavored, unsuccessfully, to duplicate it, although claiming that the 'Rise' formula had been completely reproduced but was not found satisfactory, particularly because it did not result in sufficient exhaustion of the product from the can. Also, Col-

gate was troubled with sputtering of the product. September, 1950: Fine entered the employment of Colgate although he had been a co-inventor of 'Rise'. October, 1950: Fine revealed to Colgate the causes of the sputtering. November, 1950: Fine disclosed to Colgate the precise formula of 'Rise,' and also combined that formula with diluted Colgate lather, to make 'Rapid-Shave No. 1'. Further, he disclosed to Colgate, and to the latter's supplier of valves, the siphon tube annealing process employed by Carter for 'Rise.' August, 1951: Colgate filed in Fine's name a patent application covering the formula of 'Rapid-Shave No. 1', which embodied his work originally done on 'Rise'. November, 1951: Fine prepared, and disclosed to Hansen, his assistant at Colgate, a duplicate formula for 'Rise,' superfatted, i.e., with excess of fatty matter (soap). September, 1952, until February, 1953: Colgate pursued its experimentation in superfatting the 'Rise' formula with petrolatum, carbowax and excess stearic acid, and then marketed it 'Rapid-Shave No. 2'. September 1953: Colgate filed its second patent application in the name of Fine and associates, based on the development work that Fine had done while employed by Snell."

We agree with the District Judge that Colgate must be held to liability for the appropriation and use of the "Rise" formula in developing its shaving cream. That formula had been developed in the confidential work of Snell for Spitzer. Fine as an employee of Snell was under contract with Snell not to disclose information obtained in the course of this work. Colgate knew of Fine's employment and of his work on the development of "Rise", which Colgate had been unable to produce even after purchasing it on the market and having it analyzed. Although Colgate had twice before this refused to employ Fine, and although it knew of the confidential nature of his employment with Snell, it proceeded to employ him while it was engaged in the effort to develop a pressurized shaving cream and, within a month of his employment, put him to work on the problem, which he solved immediately by using the "Rise" formula in combination with a formula which Colgate had found unsuccessful.

With respect to the superfatting, it appears that this was worked out at Snell's to give the lather a "brushless effect" after the patent in suit had been applied for. It also appears that Fine, who had developed the superfatting process in the course of his work at Snell's, suggested it to Colgate and that Colgate adopted the process and caused an application for a patent covering it to be filed by Fine.

On these facts, there can be no question but that Colgate used the knowledge of Fine in producing its pressurized shaving cream or that this knowledge related to matters which were trade secrets of Spitzer and his associates. That Colgate did not enter into an open bargain with Fine to disclose this confidential information is no de-

fense. Nor is it a defense that Fine upon his employment was entitled to use his skill in Colgate's interest. He was not entitled to give to Colgate the benefit of business secrets which had been disclosed to him at Snell's; and Colgate could not close its eyes to facts which clearly indicated that this was what he was doing, even if he had not been employed for that express purpose. One may not escape liability for appropriating the business secrets of another by employing one who has been entrusted with the secrets and permitting him to make use of them. With respect to this the District Judge said:

"*** it is not necessary to, nor do we find that Colgate's employment of Fine was originally arranged for the specific purpose of having him divulge confidential information about the 'Rise' patent that he had acquired at Snell's. The basis of our decision that Colgate's action was wrongful is that Colgate knew, or must have known by the exercise of fair business principles, that the precise character of Fine's work with Snell was, in all likelihood, covered by the agreement which Fine had with Snell not to divulge trade secrets, and that, therefore, Colgate was obligated to do more than it did towards ascertaining the extent to which Fine was, in fact, restricted in what he might disclose to Colgate. That it was wrong for Colgate not to go further than it did in this respect is confirmed by the very status of Fine when he came to Colgate. At that time Fine was a joint inventor and patentee of 'Rise.' In other words, Fine was willing to be, and was knowingly placed by Colgate in work that was in direct competition with the work in which Fine had shared at Snell's, resulting ultimately in his own patent. The very fact that Fine would do this should, per se, have raised in the minds of the representatives of Colgate, who arranged the employment of Fine, a feeling that he was entering upon a rather strange employment under the circumstances. It, therefore, was not enough for Colgate to say that they would see that Fine lived up to the limitations imposed by his contract with Snell. The weight of the credible evidence discloses that Colgate was far from being sufficiently avid to ascertain what those limitations really were, and to have Fine live up to them."

The principles of law applicable are well settled and are well stated in section 757 of the A.L.I. Restatement of Torts as follows:

"One who discloses or uses another's trade secret, without a privilege to do so, is liable to the other if

* * *

"(c) he learned the secret from a third person with notice of the facts that it was a secret and that the third person discovered it by improper means or that the third person's disclosure of it was otherwise a breach of his duty to the other, ***."

Directly in point in support of the proposition thus stated are *Peabody v. Norfolk* 98 Mass. 452, 96 Am. Dec. 664 (opinion by Gray, J.); *Nulomoline v.*

Stromeyer 3 Cir. 249 F. 597; *Herold v. Herold China & Pottery Co.* 6 Cir. 257 F. 911; *A. O. Smith Corp. v. Petroleum Iron Works of Ohio* 6 Cir. 73 F. 2d 531, 539; *Ferroline Corp. v. General Aniline & Film Corp.* 7 Cir. 207 F. 2d 912, 921; *Seismograph Service Corp. v. Offshore Raydist* (E.D.La.) 135 F. Supp. 342, 354; *Lamont C. & Co. v. Bonnie Blend Chocolate Corp.* 238 N. Y. S. 78. See also *Smith v. Dravo Corp.* 7 Cir. 203 F. 2d 369, 375; *Franke v. Wiltschek* 2 Cir. 209 F. 2d 493, 495. *Nulomoline v. Stromeyer*, *supra*, was a case in which the appropriation of the trade secret resulted, as here, from the employment of one to whom it had been imparted in the course of a former employment. In *Herold v. Herold China & Pottery Co.*, *supra*, Judge Knappen, speaking for the Court of Appeals of the Sixth Circuit, stated the rule as follows:

"The rule is well settled that secret formulas and processes, such as are claimed to be involved here, are property rights which will be protected by injunction, not only as against those who attempt to disclose or use them in violation of confidential relations or contracts express or implied, but as against those who are participating in such attempt with knowledge of such confidential relations or contract, though they might in time have reached the same result by their own independent experiments or efforts."

We do not think that the finding, 12(b), with respect to the annealing of the polyethylene tubes by dipping them in hot water can be sustained. While Fine learned of this at Snell's and communicated his knowledge to Colgate, the process was one which was well known and cannot be treated as a trade secret or a confidential disclosure. *American Potato Dryers v. Peters* 4 Cir. 184 F. 2d 165, 172; A.L.I. Restatement of Torts sec. 757 Comment (b) pp. 5-6. This, however, is not material since no injunctive relief is granted with respect thereto and the damages, whether based on the use of the original "Rise" formula or the superfatted formula, would not be affected thereby.

3. The Decree

DECREE was properly entered enjoining infringement of the patent and awarding damages because of infringement, and, as to Colgate, awarding damages from the time that this defendant began using the trade secrets which it had obtained by the employment of Fine. *Hochtko v. Kemp Mfg. Co.* 4 Cir. 80 F. 2d 912, 922, 923; *C. & O. R. Co. v. Kaltenback* 4 Cir. 95 F. 2d 801, 806; *Ackerman v. General Motors Corp.* 4 Cir. 202 F. 2d 642, 645. The decree properly ordered that all rights under the patent applications filed by Fine at Colgate's direction be assigned to plaintiffs. Without intimating any opinion as to whether patent should issue on these applications, we think clear that, if patents should issue, all rights therein, in equity and good conscience, belong to plaintiffs, since the discovery or invention involved was made by Fine while employed for

the purpose of making it. *Standard Parts Co. v. Peck* 264 U. S. 52; *Becher v. Couture Laboratories* 279 U. S. 388; *Houghton v. United States* 4 Cir. 23 F. 2d 386, 388; *Saco Lowell Shops v. Reynolds* 4 Cir. 141 F. 2d 587; *Reynolds v. Whitin Machine Works* 4 Cir. 167 F. 2d 78, 86; *Shellmar Products Co. v. Allen-Qualley Co.* 7 Cir. 36 F. 2d 623.

Question is raised as to the awarding of attorney's fees against Colgate under 35 USC 285; but this was a matter resting in the sound discretion of the trial court and we cannot say that the discretion was abused. *Orrison v. C. Hoffberger Co.* 4 Cir. 190 F. 2d 787, 791; *Aeration Processes Inc. v. Walter Kidde & Co.* 2 Cir. 177 F. 2d 772; *Pacific Contact Laboratories v. Solex Laboratories* 9 Cir. 209 F. 2d 529, 533. This is not an ordinary case of infringement. It is a case of deliberate and wilful infringement based upon and made possible by appropriation of trade secrets upon the basis of which Colgate has itself attempted to obtain a patent. The court below has termed the defense "specious". Whether "specious" or not, the circumstances were certainly sufficient to make this an "exceptional" case within the meaning of the statute, the purpose of which was to give the court power to throw the burden of unnecessary and vexatious litigation on the shoulders of those who are responsible for it.

Other questions raised by the appeal warrant but scant mention. It is urged that there was error in refusing to require plaintiffs to furnish to defendants the correspondence passing between plaintiffs' agents and counsel with reference to the Rotheim patent when it was being considered by the Patent Office in connection with the patent in suit. The motion was denied on the ground that it involved privileged communications of counsel, but the correspondence was proffered for examination by the court. Aside from the question of privilege, it is a matter resting in the discretion of the court as to how far parties should be allowed to go in a fishing expedition of this sort; and there is nothing to show that the discretion was abused or that there was anything in connection with this correspondence which would warrant our sending the case back for rehearing. The same may be said as to the action of the court in holding the parties to the trial of the issues involved in the case and in excluding evidence offered with respect to the use of propellants in the art relating to insecticides. Complaint is made that the trial judge was impatient with counsel, but an examination of the record shows that he tried the case carefully and with a great deal more patience than most judges would have exercised under similar circumstances. He gave six weeks to a case which should have been tried in a much shorter period, and at its conclusion counsel for defendants expressed their appreciation of the patience which he had exhibited throughout the trial.

The decree appealed from will be affirmed.

Affirmed.

Letters

(From Page 39)

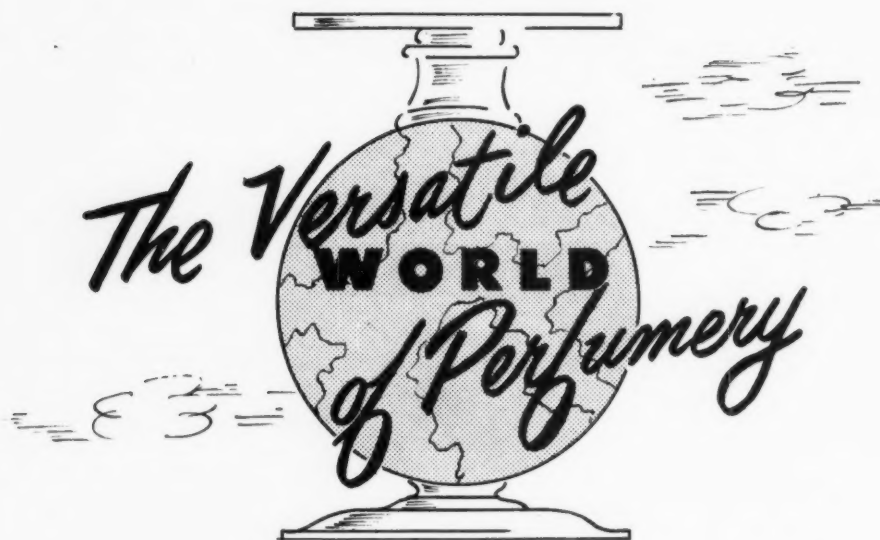
editorial dealing with combination products. We note that they are coming into style so away to the printer, like a lady to her milliner, and put it on the label. Whether or not substantiated by property values is not the question, seemingly with many. When you see good detergents employing concentrations ranging from 0.2 percent by weight for light duty to 0.4 percent for heavy duty, you wonder whether a little wetting agent added to an iodine, for example, to form an iodo-for can or should be labeled as a "detergent". To my mind, full adequacy of detergency is as essential to sanitary cleaning as is bactericidal effectiveness.

JAMES J. WILSON,
Kalusoff, Ltd.,
Springfield, Ill.

— ★ —

New Antara Booklet

Antara Chemicals, a sales division of General Aniline & Film Corp., New York, recently published a 20-page booklet describing its line of ultraviolet light absorbers. "Uvinul 400" and "Uvinul 490" are established products, "Uvinuls D-49 and M-40" have been added more recently. Absorbers of ultraviolet radiation, these compounds are stable, may be incorporated into solid plastics or fluid protective coatings to filter ultraviolet from radiations impressed on any surface. Not only do they protect a substrate but they also may stabilize the vehicle or medium to ultraviolet degradation. By suitable compounding they may be formulated into aqueous or non-aqueous liquids to limit or eliminate the transmission of ultraviolet radiations. They may be used to control photochemical reactions either by selecting a radiation band or by cutting off all of the ultraviolet. These controls are effective within the system containing the "Uvinul," or on a substrate shadowed by a "Uvinul" screen.



Only a few decades ago, the sole application of perfumery was to enhance the appeal of a large variety of personal products.

While perfumes and cosmetics are still of primary importance, the field of fragrance has recently entered into a vast new era . . . the era of industrial odorants. From household products to manufacturing processes, lube oils to smokestack deodorizing the field now extends. Today's perfume chemist moves in an ever widening area, filling new demands for his specialized services and in so doing creating a versatile and expansive new industry. For more than 157 years,

D&O has served the perfume industry both traditional and developing.

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New England	Eastern States Warehouse	675 Concord Street Cambridge, Mass.	Phone Boston at Commonwealth 6-3938
New York	J. Leo Cooke Warehouse Corp.	140 Bay Street Jersey City, N.J.	Murrayhill 2-9146
Philadelphia	Penna. Industrial Chemical Corp.	Jeffrey at Delaware Streets Chester, Penna.	Chester 4-4381
South Atlantic	Fulton Warehouse	544 Means Street, N.W. Atlanta, Ga.	Walnut 9257
Pittsburgh	Penna. Industrial Chemical Corp.	State Street Clairton, Pa.	Belmont 3-8600
Detroit	D. H. Overmyer Warehouse Co.	1197 West 67th Street Cleveland, Ohio	Phone Detroit collect at Woodward 3-5020
	Jefferson Terminal Warehouse	1900 East Jefferson Street Detroit 7, Mich.	Woodward 3-5020
	William B. Tabler Co.	1029 West Main Street Louisville 2, Ky.	Clay 7666
	Cincinnati Transfer Co.	1440 West Eighth Street Cincinnati, Ohio	Cherry 1-0080
Chicago	Witco Chemical Company	457 East South Water Street Chicago, Illinois	Wabash 2-8167
	Rutger Street Warehouse, Inc.	Main and Rutger Streets St. Louis, Missouri	Forest 1-6440
Pacific Coast	Pacific Commercial Warehouse	2014 East Fifteenth Street Los Angeles, Calif.	Dunkirk 7-5201
	San Francisco Warehouse Co.	645 Third Street San Francisco, Calif.	Ordway 3-0345

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Research on Roccal, the original quaternary ammonium germicide, is now being conducted in the impressive structure shown above. Here a large staff of scientists, working with the most modern equipment, is continually striving to improve existing Sterwin products and develop new products.

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Use only the original quaternary ammonium germicide, *genuine Roccal*, in your compounds and formulations. Then you can be sure of potency, uniformity, quality and stability.

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In proper dilutions
ROCCAL is:
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Essential Oil Outlook . . .

Prices push higher under pressure of European cold damage reports

THE extent of the damage to essential oil producing regions as a result of the worst winter in Europe in many years is not fully known as yet. However, already prices of essential oils from southern Europe have commenced to react upward to the pressure of the fragmentary reports that are now reaching the U. S.

Neroli oil, for example, from the bitter orange tree, has quadrupled in price to \$400 a pound. However, this oil normally is out of the price range of the soaper, and where it is used in compounds and specialties, replacements are being studied.

It is just too early to tell whether or not lavender, rose and jasmín crops have suffered from Europe's cold winter. Lavender prices are up about 10 percent but trade sources indicate this is not due to possible damage from the cold. Lavender is a hardy plant, and supplies of this oil may not be adversely affected by the cold. Lavandin prices remain firm.

Geranium oil from the Reunion Islands, Madagascar, is up about 10 percent or \$2.00 a kilo, but this does not reflect the effects of winter weather.

The chief sufferer seems to be the citrus crop of Spain and France. A recent preliminary appraisal by U. S. Department of Agriculture attaches in Europe indicates that citrus exports from Spain will be short for the remainder of the 1955-56 season, and possibly for one or two seasons thereafter. Over 200,000 recently planted trees were reported to have succumbed to the cold in Spain. Apparently Spain lost much of the unpicked citrus of its present harvest, amounting to half of the crop in some areas. Tree damage is reported heavy south of

Valencia, moderate in the Valencia and Castellon areas.

Southern Italy, on the other hand, reports the cold wave has not damaged crops at all. This is particularly true in Calabria and Messina. From these areas no sudden price increases are foreseen in oils of lemon, orange and mandarin. Bergamot price in those areas may rise slightly due to a somewhat inferior 1956 crop. There was more fruit produced in Southern Italy in 1955, according to reports from this region.

Almond exports from Spain and Italy again will be short in 1956-57, and possibly for the next two seasons, the Department of Agriculture reports.

Olive oil production in Spain and Italy again will be short in 1956-57 and, if reports of damage to trees are confirmed, possibly for several more seasons, the U.S.D.A. says. Spain reports damage to olive trees in the important Jaen and Cordoba areas, and the fairly important Tarragona area, but accurate appraisal is not yet possible.

In France, olive trees, according to the Ministry of Agriculture, suffered considerably from the freeze; few trees will be lost but many will have to be pruned severely.

Extensive damage is reported from major producing areas in the South, and possibly some damage was done in Tuscany and Liguria.

Tree damage in Spain reportedly is severe, with a short almond crop in prospect for the next three years. In Italy, serious damage is reported to the important Bari almond crop, near full flowering, and to other Southern areas. France's almond production is said to be badly hurt.

What adds to the seriousness of the situation is the low level to which essential oil stocks in the United States had been permitted to fall.

— ★ —

New "Aerovap" Refill Unit

An improvement in the packaging of its "Aerovap #7" insecticide refill was announced recently by American Aerovap, Inc., New York. The new containers bear a label that also seals the cap. This prevents reuse of the container. The refills contain 100 percent pure gamma isomer Lindane with "Vapo-Aid," which is said to stabilize the vaporization rate. The refills are priced at \$3.50 for an 80 day supply. For further information write to American Aerovap, Inc., 170 W. 74th St., New York 23, N. Y.

— ★ —

Texize Expands Plant

Texize Chemicals Inc., Greenville, S. C., recently announced completion of a 72,000 square foot addition to a recently purchased building in Mauldin, S. C. The new facilities will permit increased production of the firm's household cleaners, starches and disinfectants and will reduce production costs, according to the announcement.

New six-can carton is now a standard pack for "Sprayway Hi-Pressure 55" industrial aerosol insecticide of Tru-Pine Co., Chicago. Case of six 12-ounce containers retails for \$10.55. Formula includes pyrethrum and piperonyl butoxide. Feature of the aerosol can is a spray tip of special design which directs fine mist high into air. It may be set for continuous spray, exhausting entire contents of can in single application without manual attention. Product was introduced last summer for control of flies, gnats, silver fish, roaches, fruit flies, beetles, cereal moths and other insects in food handling operations.



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*Regular, oxidized and wax-resin blends.

Bareco waxes have been used by leading polish manufacturers for many years. This wide acceptance has enabled Bareco to specialize in the refining of microcrystalline waxes with the polish-makers' needs as a definite objective. Because of this specialization, use of Bareco wax products assures better polish characteristics; and it provides them economically.

Here is a partial listing of Bareco polish waxes and their specifications:

BARECO WAX	MELTING POINT °F.	PENETRATION	COLOR N.P.A.	ACID NUMBER	SAPON. NUMBER
Petrolite C-700	190 Min.	4 Max.	1 ½ Max.	Nil	Nil
B-Square 190 A	190/195	2-7	1 ½ Max.	Nil	Nil
Petrolite C-1035	195 Min.	2 Max.	1 ½ Max.	Nil	Nil
Petronauba D	185 Min.	5 Max.	6 Max.	20-28	50-60
Petrolite C-15	180 Min.	4-6	4-5	15-17	45-55
Petrolite C-23	180 Min.	4-6	4-5	20-25	55-65
Petrolite C-36	180 Min.	5-7	4-6	30-35	75-85
Petrolite PE 100	195-200	2-3	4-6	15-20	45-55
Petrolite R 50*	190-200	2 Max.	4 ½ Max.	40-50	65-80
Petrolite P 20	210-220	2 Max.	3 Max.	Nil	Nil

*R-50 is a microcrystalline wax—phenolic terpene resin blend. It is compatible with the waxes usually used in emulsion polishes, and can be used in all emulsion equipment. Its use saves the nuisance of separately storing and handling both resin and wax.

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A DIVISION OF PETROLITE CORPORATION
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BOX 2009, TULSA, OKLAHOMA

■ 9618

Pressure Packaging

(From Page 122)

column, with provision for flow rate measurement through a critical-flow orifice meter.

The impactor, Battelle explains, operates on the principle that a particle in a moving aerosol impacts on a slide placed in its path, provided the inertia of the particle is great enough to overcome the drag force that tends to move the particle around the slide. A classification of the particles into different size fractions is achieved by successive increases of the velocity of the aerosol through the various stages of the impactor.

While that explanation sounds very technically confusing and complex, the advantages of the cascade impactor are more simple. Pilcher says the impactor test looks promising because it permits (1) collection of a relatively large sample; (2) microscopic counting is eliminated in routine analyses, and (3) the bias resulting from evaporation and from non-representative sampling is minimized. Tests conducted already by Battelle indicate a high degree of reproducible accuracy in particle size measurement.

No definite action was taken at the March 7 meeting at Battelle Institute in Columbus, but those attending the all-day affair showed a great deal of interest in Battelle's proposal. Development of a practical production model of the cascade impactor test equipment might require a year, cost about \$25,000. Current status: Battelle probably will write up a suggested project . . . circulate it to any interested parties in the aerosol business . . . wait for word as to whether aerosol people feel it's worth going ahead and underwriting the project.

Armour Foundation's paper on a similar type of apparatus, slated for presentation before CSMA in Chicago next month, will cast further light on the whole problem of particle size measurement.

Aside from its contribution

to product quality control, Battelle's proposition for a joint aerosol research program is a welcome indication that aerosol products are maturing into full bloom stature. Too often, in its founding years, pressure packagers seemed to go off in all directions with their own, widely differing, research and product development methods. Problems like proper particle size, so universally important to all pressure packaging firms, frequently are too big for any one person or company to tackle and solve effectively. But by pooling their resources in a joint search for the best way of producing the best products the individual aerosol producers often can progress more soundly and more quickly than they could on their own.

The cooperative, give-and-take, share your resources for the common good, idea expressed in the Battelle Institute proposal has a lot of merit as we see it . . . indicates the gangling kid typified by the aerosol package is out of the toddling stage, well through its teens, and into manhood.

Aerosol Advertising

AND speaking of maturing, another welcome sign, we think, is the growing amount of advertising and other promotion of aerosol products. Maybe it had been going on all the time and we just missed it, but we have the feeling that concerted sales promotion of aerosols is less than a year or two old.

Time dims a lot of memories, but it seems to us that until recently aerosol packagers just grew on the basis of a new type of packaging that was coming up with so many new things every month that it received editorial promotion in spite of itself. Perhaps the business was developing so fast that marketers didn't have time to think about merchandising . . . maybe the wartime and post-war shortages and loss of old-time salesmanship were behind what we remember as a noticeable lack of aggressive promotion.

That's water over the dam,

now. But it is pleasant to see marketers and producers of the aerosol products showing a new interest in active sales promotion . . . through both advertising and editorial promotion. Leading the pack, of course, is Revlon Products whose "\$64,000 Question" is not only making their aerosol products a household word, but indirectly is benefitting all aerosol firms by televisionizing the handy features of the push button package.

Look to the increasing editorial coverage of new aerosol products in the daily press and magazines in the last year and you'll find the companies being quoted and talked about usually are those who've not only begun to advertise but have added editorial consultants to their staffs.

While we don't like the word "publicity" because somehow it revives unpleasant memories of the old-time "press agent" off whose glib tongue rolled a lot of meaningless drivel, we welcome the new style public relations and editorial help many companies are providing. A well thought-out and executed product promotion program along editorial information lines is a big help to editors, so long as it's maintained on an editorial service plane and doesn't degenerate into a commercialized effort to grind out scads of copy with no legitimate news or feature hook on which to hang the story.

Effective editorial promotion isn't difficult. And it'll be welcomed by busy editors if you'll just remember to stick to the facts, briefly and clearly, eliminate the "product puffs", and supply reliable, interesting product information . . . leaving the hard selling, product glorification to your advertising department.

— ★ —

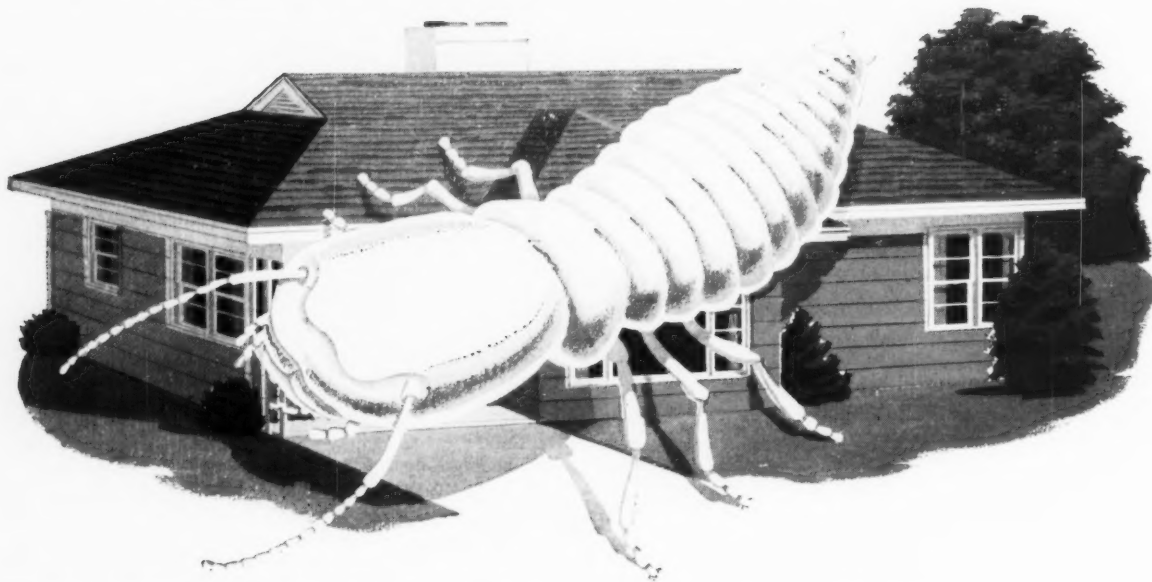
Record Tube Shipments

Shipments of collapsible metal tubes in January were at a record high of 99,673,632, according to a recent announcement of the Collapsible Tube Manufacturer's Council, New York.

NOW...

a new chemical weapon for long-lasting termite control—

dieldrin



Now dieldrin, approved and recommended for termite control, is proving to be one of the most effective and long-lasting chemical controls for termites. Tests indicate that dieldrin's remarkably long residual action can keep knocking out termites for years and years.

More effective than structural barriers

When structural barriers deteriorate, replacement is difficult, costly, and often impractical. But a chemical barrier of dieldrin kills termites if they eat, touch, or breathe it.

Long residual effect

Small amounts of dieldrin, applied according to label instructions, give long-lasting, effective control. And dieldrin remains stable even in soils with high alkaline or acid content.

Next time your customers call on you for termite control, use longer-lasting, more-effective dieldrin. It is manufactured by leading formulators under their brand names. Technical information on dieldrin and its application is available. For further details, write to:

SHELL CHEMICAL CORPORATION
AGRICULTURAL CHEMICALS DIVISION
460 Park Avenue, New York 22, New York



News

Wexler Palsy Chairman

Irving M. Wexler, president of Buckingham Wax Co., Long Island City, N. Y., has been ap-



Irving W. Wexler

pointed chairman of the Soap, Waxes, Paints and Chemical Division of the United Cerebral Palsy of Queens 1956 Building Fund Campaign for a new vocational-recreation center to be built on 164th St. and Goethals Ave., Jamaica, N. Y. In making the announcement last month, Pierce H. Power, vice-president of Paragon Paint Co., and borough and county chairman for the drive, stated he had appointed Mr. Wexler because "Irving Wexler is representative of his industry as a civic minded philanthropist who is ready to assume leadership in many worthy causes."

The building the organization plans to erect will be known as the "Beacon of Hope." It will cost \$250,000 and will contain evaluation rooms, psychological testing areas, therapy facilities, lounge and dining rooms, as well as a complete workshop for the cerebral palsied.

Ivy to Mich. Chemical

Michigan Chemical Corp., St. Louis, Mich., announced recently the appointment of Edward E. Ivy as technical service entomologist in the agricultural sales division. His chief concern will be methyl brom-

ide and DDT programs in the southwest. He will work out of College Station, Tex. For the past 15 years Dr. Ivy was associated with the U. S. Department of Agriculture insecticide screening laboratory, where he was in charge prior to his recent appointment.

Meyers to Old Empire

Old Empire, Inc., Newark, N. J., has appointed William F. Meyers as comptroller, it was announced recently by John de Elorza, executive vice-president. Mr. Meyers was previously associated with Chase Chemicals Co., Newark, N.J. where he also held the position of comptroller.

Avmor Names Chinks

Henry I. Chinks has been appointed vice president in charge of sales for Avmor Ltd., Montreal, Que., it was announced in March by A. Morrow, president. Mr. Chinks will be responsible for the expansion of Avmor's distribution across Canada. He will visit jobbers and aid them in introducing new ideas and new products to their territories.

Avmor now offers a complete line of sanitary maintenance supplies to Canadian jobbers, including waxes, soaps, deodorants, etc. The firm recently completed

Henry I. Chinks



the installation of modern wax manufacturing facilities in its Montreal plant.

Sterwin Names Krum

The appointment of Dr. Jack K. Krum as assistant technical director of Sterwin Chemicals, Inc.,



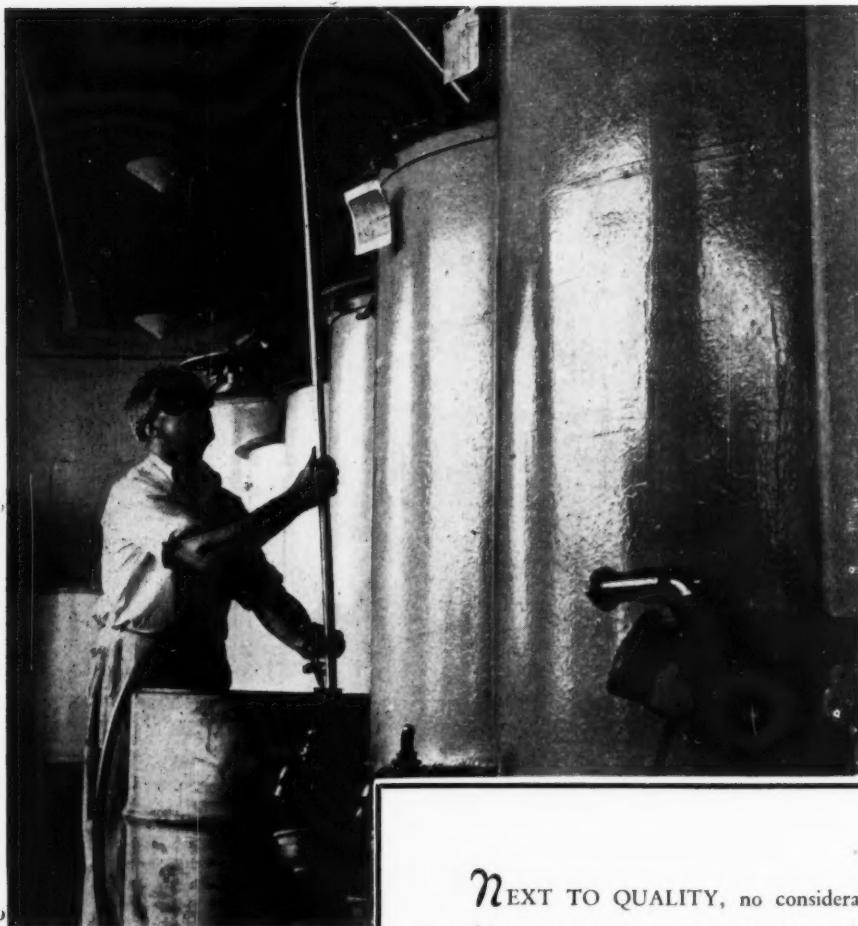
Jack K. Krum

was announced late last month by Robert S. Whiteside, president. Dr. Krum, who will work with Dr. R. C. Sherwood, vice-president and technical director, was research chemist for National Biscuit Co. from 1952 until joining Sterwin. Previously he was associated with Oscar Mayer & Co., Madison, Wis., as food technologist in charge of product control laboratories.

Dr. Krum received an A.B. degree from Hope College, and M.S. in food bacteriology from Michigan State University, and a Ph.D. in food technology from the University of Massachusetts. He served in the Pacific Theatre during World War II as a lieutenant with the U. S. Navy from 1942 to 1946.

New Bridgeport Brokers

The following new brokers have been appointed for the Aer-sol division of Bridgeport Brass Co., Bridgeport, Conn., it was announced recently by Walter E. Anderson, sales manager: Van Dusen & Graham, Grand Rapids, Mich.; Jack Carpel Co., Washington, D. C., and Baltimore; Pezrow Sales Co., metropolitan New York area, and Queensberry & Catlin, Miami.



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TECHNICAL USE

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for PERFUMES, TOILETRIES
and COSMETICS

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AROMATIC CHEMICALS,
BASIC PERFUME and
FLAVOR RAW MATERIALS

NEXT TO QUALITY, no consideration is of more concern to the year-in, year-out user of oils and aromatics than that of *dependable uniformity*. To insure this, we do three things: We establish favorable supply arrangements for the finest raw materials by making direct personal contact with leading producers throughout the world. Next, by careful and continuous laboratory control, we screen out any materials that fail to meet the high standards of acceptance we've established for our goods. Finally, by bulking these tested and accepted materials, lot by lot, we reduce to a minimum any possibility of variation from one delivery to the next. In this way we insure FRITZSCHE products their fine reputation for uniformity and quality.

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BRANCH OFFICES and *STOCKS: Atlanta, Georgia, Boston, Massachusetts, *Chicago, Illinois, Cincinnati, Ohio, *Los Angeles, California, Philadelphia, Pennsylvania, San Francisco, California, St. Louis, Missouri, Montreal and *Toronto, Canada and *Mexico, D. F. FACTORY: Clifton, N. J.

Two Join Hollingshead

The appointment of two new sales representatives to the industrial division of R. M. Hollingshead



Richard S. Moseley

Corp., Camden, N. J., was announced recently. They will represent the company in New York City, northern New Jersey and the Philadelphia areas.

Richard S. Moseley was appointed industrial sales representative to cover New York City and northern New Jersey. He was formerly associated with C. B. Dolge Co., Westport, Conn., where he was sales manager of the com-

pany's sanitary maintenance supplies division. He attended St. John's College, Annapolis, Md., and Boston University Night School.



Thomas Miller

Named industrial sales representative by Hollingshead to cover the sanitary supply distributing field in the Philadelphia area is Thomas Miller. He was formerly associated with the New York news distributing firm of S-M News Co., and Time, Inc. A graduate of the University of Scranton (Pa.), where he received a B.S. degree in marketing, Mr. Miller resides in Philadelphia.

McArthur Co. Moves

McArthur Chemical Co., Division of St. Maurice Chemicals Ltd., chemical specialties and laundry supplies firm, moved its Montreal office last month to 1396 St. Patrick Street, Montreal 22. The firm's new telephone number is Glenview 4611. The offices were previously located at 640 St. Paul Street, West.

New Plasti-Kote Line

Plasti-Kote Inc., Cleveland, has redesigned the packages of its aerosol products for increased appeal to impulse buyers, it was announced recently by Herbert Fine, president, at a meeting of the firm's sales representatives. Each product will be packed in combination shipper-point-of-purchase displays. Seven new products have been added to the line including a dog spray,

ant and roach spray, plant spray, moth proofing, paint and varnish remover, engine degreaser, and garbage can deodorizer. The firm's plans also call for a consumer campaign in *Life* magazine, beginning this month.

Sun Chem. Profits Up

A 15 percent increase in net earnings is reported for 1955 by Sun Chemical Corp., Long Island City, N.Y., parent corporation of Warwick Wax Co. Net profit after taxes in 1955 totaled \$2,066,346 against \$1,801,508 for the preceding year. This equals \$1.65 per share of common stock in 1955 compared with \$1.43 in 1954. Total shares of common stock outstanding in both years were 1,196,283. In 1955 the company's net sales amounted to \$42,063,339 against \$40,075,672 in 1954.

R&H Record Income

Record sales, income and earnings in 1955 were reported recently by Rohm & Haas Co., Philadelphia. Sales in 1955, 21.9 percent over the previous high of \$132,615,289 in 1954, amounted to \$161,643,622. Net income, after provision for income taxes and renegotiation, amounted to \$17,686,817, compared with \$12,430,596 in 1954. Earnings, after allowance for preferred dividend requirements, totaled \$17,440,661 in 1955, which was equivalent to \$17.23 per share on the 1,012,031 shares of common stock outstanding on Dec. 31, 1955. The comparable figure for 1954 was \$12.04 after adjusting to reflect the four percent stock dividend on Dec. 27, 1955. The weighted average selling price of products sold in 1955 was 3.9 percent lower than in 1954 and substantially under the 1939 level.

FMC Record Sales, Income

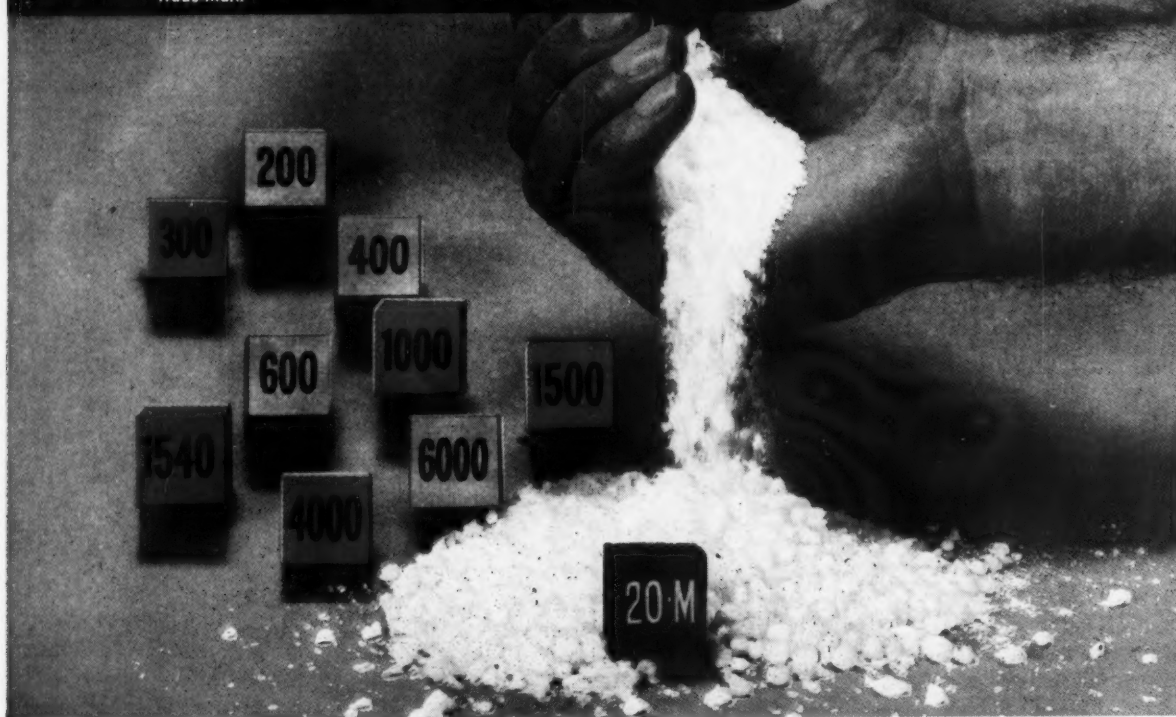
An increase in its sales, net income and common share earnings were reported for 1955 recently by Paul L. Davies president of Food Machinery & Chemical Corp., Middleport, N. Y. Sales last year totaling \$264,619,766 and net income of \$14,881,575 were at an all-time high. Common share earnings amounted to \$4.53 in 1955, as against \$3.80 a year earlier. Sales in 1954 amounted to \$233,401,699 and income was \$12,122,125.

Bacteriostatic Rinse

Washable cotton and woolen goods are said to be rendered lint-free, odorless, and germ-resistant for a period of up to 6 months by the addition of "Saniwash" to the final rinse water in the laundry. Made by Parlee Co., Indianapolis, the product is being offered to rug cleaners, laundries and similar establishments. "Saniwash" is composed of an anionic oil emulsion and a cationic germicidal emulsion. When added to the rinse water it forms a film on the materials which is said to have no effect on their appearance or feel.

NOW THERE ARE 10 CARBOWAX Polyethylene Glycols

Trade-Mark



The widest available range of these versatile compounds

CARBOWAX polyethylene glycol 20-M gives you new opportunities to use this versatile series. Because of its higher molecular weight, its melt and solution viscosities are higher, films formed from it are harder and stronger, and its lubricating action is greater.

Like all members of the series of CARBOWAX polyethylene glycols, 20-M is water-soluble, heat stable, and inert to many chemicals. And it has the binding and suspending properties characteristic of the series. Try 20-M in applications where mild thickening action and suspending power are desired, and as a rubber release agent where intricate molds require a more viscous lubricant.

CARBOWAX polyethylene glycols are widely used as solvents, humectants, lubricants, and intermediates. They have become increasingly important as vehicles for medicaments and cosmetics, as mold-release agents, textile lubricants, softeners, antistatic and conditioning agents, and as intermediates for surfactants and synthetic resins.

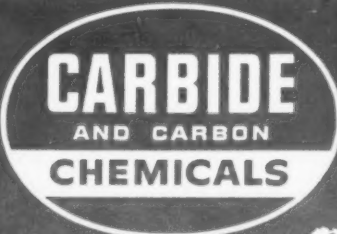
With the addition of CARBOWAX polyethylene glycol 20-M, the series has a molecular weight range of 200 to 20,000. The individual products vary in physical form from liquids through soft semi-solids to hard waxes.

The term "Carbowax" is a registered trade-mark of Union Carbide and Carbon Corporation.


For more information on these water-soluble polyols, just call or write the District Office nearest you.


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AND CARBON
CHEMICALS**



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A Division of
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30 East 42nd Street  New York 17, N. Y.

NACA Meets in Florida

National Agricultural Chemicals Association held its spring meeting March 14-16 at the Hollywood Beach Hotel, Hollywood, Fla., with over 400 members and guests in attendance. The convention was called to order Wednesday morning, March 14, by M. C. Van Horn, Florida Agricultural Supply Co., Jacksonville, program chairman. The first speaker was NACA president, W. W. Allen, Dow Chemical Co., who stressed the absolute necessity for more label publicity and education. Mr. Allen stated that consumers should be urged in every conceivable manner to first read the labels on insecticides, then follow the directions. He pointed out that the Miller Pesticide Act had made the public considerably more conscious of pesticides, that this could only be turned to the advantage of the industry by re-doubling efforts to insure their proper use.

Other speakers during the three day meeting included John A. Field, vice-president of Carbide & Carbon Chemicals Co., New York (The Agricultural Chemicals Industry); F. W. Hatch, NACA vice president and manager of Shell Chemical Corp., agricultural chemicals division; and Lea S. Hitchener, executive secretary of NACA. Scheduled entertainment included a reception and water show at the pool Wednesday night, a ladies' tour Thursday morning, and a buffet dinner followed by a visit to Hollywood Dog Track that night. The meeting was adjourned at noon Friday, March 16.

Fuld Promotion Offers

Fuld Brothers, Inc., Baltimore, recently made three special offers to promote its "Glytone" air sanitizer, "Vitozone" deodorant, and "Fuldeth" fly spray. With every 10 cases of quarts of "Glytone," the customer was able to order, free of charge, a case of either of the other two aerosol products covered by the campaign. With every order for 12 cases of eight ounce bottles of "Vitozone Air Fresh," 12 extra cabinets

were given free of charge. If the "Vitozone" order amounted to 50 cases or more the customer got not only the cabinets but, in addition, the services of Fuld's advertising department in designing a custom label which was reproduced on each bottle. The fly spray offer featured a reduction in price. Fuld's campaign ran for seven weeks.

New "Hep" Formulation

A new formulation for "Hep" pressure packed insecticide was announced last month by Bostwick Laboratories, Inc., Bridgeport, Conn. Claimed to be the first odor-free, kerosene-free aerosol insecticide, "Hep" is formulated with "STX-56" odorless solvent. Featuring a five percent insecticidal potency (three percent DDT, one percent methoxychlor, and one percent thanite), new "Hep" is said to be non-flammable and non-staining.

"Hep" insecticide now comes in a new 16-ounce size can, bearing the legend " $\frac{1}{3}$ more" and retails at \$1.29. The 12 ounce regular size is being continued. The product is suggested for use against flies, mosquitoes, roaches, ants, silverfish, fleas, waterbugs, bedbugs, gnats, wasps, and other insects.

Hercules to Split Stock

A three for one split of its common stock was approved by stockholders of Hercules Powder Co., Wilmington, Del., at its annual meeting in Wilmington, March 20. Also approved were an employee savings plan, and a stock option plan.

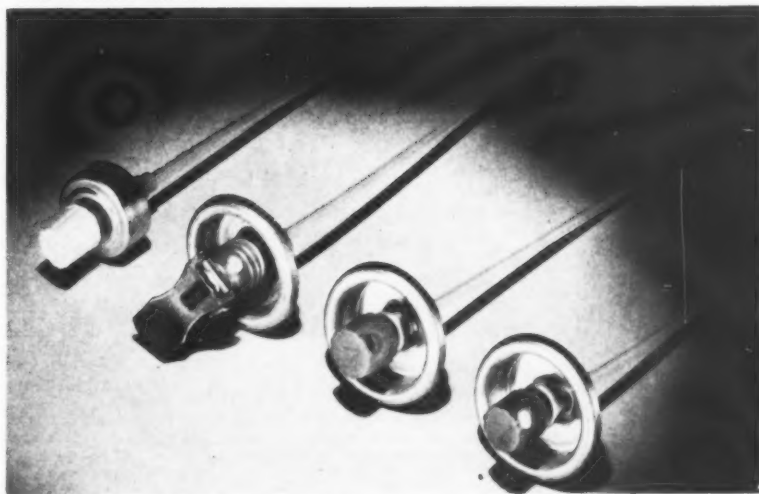
Along with the stock split, the share holders approved a change from no par value to 2 $\frac{1}{12}$ th dollars par value a share. The new York Trust Company, transfer agent, will mail on April 30 to each holder of Hercules common stock a certificate or certificates representing two additional shares for each share held at the close of business Apr. 3, 1956.

All nominees for the Hercules board of directors were re-elected.

Diamond Names Taylor

Clyde C. Taylor was recently appointed assistant plant manager of the Richmond, Va., plant of Diamond Black Leaf Co., Cleveland, O., it was announced by O. E. Clary, plant manager. Mr. Taylor has been a staff assistant at the company's national headquarters in Cleveland for the past two months.

New aerosol valve of Newman-Green, Inc., Chicago, extreme left, is for use in glass bottles. The valve is designed for fast loading. The new valve for use with pressure packaged materials dispensed from bottles features trouble free design, and comes in a wide range of colors. Valve second from left is for dispensing pressure packaged paints. Third valve is an all-purpose one for use in dispensing insecticides, deodorants, etc. Valve fourth from left, similarly, can be used for a wide range of pressure packaged products including paint and artificial snow.



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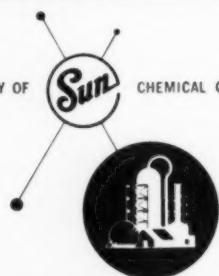
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NAME OF WAX	MELTING POINT ASTM D-127-30	PENETRATION 100G/77°/ 5 SEC.	COLOR N P A	ACID NUMBER	SAPONIFICATION VALUE	TYPE
CARDIS ONE (U.S. PAT. NO. 2471102)	195-200	1-2	4-5	12-16	55-65	EMULSIFIABLE PETROLEUM WAX
CARDIS * 314	184-189	4-6	4-5	13-16	45-55	EMULSIFIABLE PETROLEUM WAX
CARDIS * 319	180-185	5-7	4-6	18-20	65-70	EMULSIFIABLE PETROLEUM WAX
CARDIS * 320	180-185	5-7	4-5	28-30	75-80	EMULSIFIABLE PETROLEUM WAX
CARDIS * 262	195-200	3-5	BROWN	14-17	40-45	SPECIALLY PROCESSED PETROLEUM WAX
FORTEK *	190-200	3-5	2½-3½	0.0	0.0	MICRO-CRYSTALLINE HARD AND PLASTIC
MEKON * B-20 A-20 Y-20	190-195 190-195 190-195	3-5 3-5 3-5	BROWN-BLACK AMBER-6 MAX. YELLOW-3-3½	0.0	0.0	MICRO-CRYSTALLINE HARD AND BRITTLE
POLYMEKON **	200-MIN.	0-3	YELLOW	0.0	0.0	SPECIALLY PROCESSED PETROLEUM WAX
WARCO * WAX 150-A	145-155 145-155	15-20 15-20	YELLOW 1-2 BROWN	0.0	0.0	MICRO-CRYSTALLINE PLASTIC
WARCO * WAX 170-A	170-175	10-15	YELLOW 1-2	0.0	0.0	MICRO-CRYSTALLINE PLASTIC
WARCO * WAX 180	180-185 180-185	4-7 4-7	WHITE BROWN	0.0	0.0	MICRO-CRYSTALLINE HARD AND BRITTLE
WARCOSINE *	150-155	15-20	WHITE	0.0	0.0	MICRO-CRYSTALLINE PLASTIC
PARAFFIN	136-138 ASTM		FULLY REFINED			CRYSTALLINE
CANE WAX 700	169-174	1.0-1.5	BROWN	25-30	70-90	VEGETABLE WAX
CANE WAX 500	171-176	3 MAX.	LIGHT BROWN	25-35	55-70	VEGETABLE WAX
CANE WAX 517-711	170-175	2 MAX.	BLACK	—	—	VEGETABLE WAX

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Chemway Earnings Drop

In spite of an increase in its sales in 1955, Chemway Corp., New Brunswick, N. J., formerly Zonite Products Corp., recently reported a decline in net income and share earnings as compared with 1954. Sales in 1955 amounted to \$7,836,933 against \$7,546,654 in the previous year. Net income last year was \$57,301, as compared with \$113,672 in 1954, and common share earnings totaled five cents and 11 cents, respectively for the two years.

Committee D-21 Meets

Five new methods for testing floor waxes were presented by Committee D-21 on Wax Polishes and Related Materials of the American Society for Testing Materials during ASTM Committee Week in Buffalo, N. Y., Feb. 27 to March 2. The new methods of Committee D-21 were included in the annual report made during ASTM Committee Week. The methods were: the determination of flash point for solvent type waxes; the method of test for water spotting of emulsion type floor waxes; the method of test for removability of water emulsion floor waxes, and the method of application of water emulsion floor waxes.

Also submitted were progress reports on the proposed methods of hydrocarbon content of natural raw wax materials, insoluble impurities in natural waxes, and nonvolatile content (total solids) of solvent type waxes.

Revisions of methods D 1386 and 1387 are being made on the basis of extensive cooperative work. It is expected that these revisions will simplify and permit faster operation of these methods.

A final report was made on the determination of the accuracy and usefulness of the carnauba wax benzene solubility test. This will be published in the May issue of the *ASTM Bulletin*. The problem of sulfur in carnauba wax was discussed and a project to promulgate an analytical method on this subject was initiated.

The next meeting of Committee D-21 will be held in Washington, D. C., Dec. 10, 1956.

Officers of Committee D-21 include: chairman, W. W. Walton, National Bureau of Standards, Washington, D. C.; vice-chairman, J. Vernon Steinle, S. C. Johnson and Son, Inc., Racine, Wis.; secretary, B. S. Johnson, Franklin Research Co., Philadelphia.

Health Workers to Meet

The 84th annual meeting of the American Public Health Association and meetings of 40 related organizations will be held in Convention Hall, Atlantic City, N. J., Nov. 12-16, it was announced recently. More than 4000 professional public health workers are expected to attend the scientific sessions and view the technical and scientific exhibits.

New Hollingshead Finish

A new, non-wax floor finish was introduced recently under the trade name, "Floor Show," by R. M. Hollingshead Corp., Camden, N. J. The finish is a blend of natural and synthetic resins and, according to the manufacturer, dries to a hard bright gloss in about 20 minutes. It may be damp mopped when dry 48 hours and then buffed with a soft brush. "Floor Show" can be applied with a cotton mop in one or more coats. It comes in five, 30 and 55 gallon drums, as well as one-gallon cans.



Caruso in New Post

Atlas Powder Co., Wilmington, Del., recently announced the appointment of E. John Caruso as assistant manager of the chemical division's regional sales office in Chicago. Mr. Caruso was formerly technical representative in the St. Louis sales office. In his newly created position he will serve as assistant to Howard W. Dellard, manager of the Chicago office.

Paul E. Stubbe, former technical representative in the chemical sales office in Dallas, Tex., has been transferred to St. Louis to take over Mr. Caruso's previous duties.

Arwell Seminar Apr. 17

The 1956 Sanitation Seminar of Arwell, Inc., Waukegan, Ill., sanitation consulting and pest control firm, will be held at the Sheraton Hotel, Chicago, April 17. More than 350 representatives from important segments of the food processing industry and public health and municipal officers are expected to attend, according to Emmet Champion, Atwell's director of sanitation and chairman of the seminar. This year's seminar will cover the latest developments in pest control techniques and other forms of food contamination problems facing food processors, W. W. Scott, president of Arwell states.

The aim of the annual seminar sponsored by Arwell is the fostering of both understanding and evaluations of responsibilities faced by industry and those engaged in sanitation and pest control work.

The program for the seminar includes the following papers:

"The Problems of Cockroach Resistance," by W. C. McDuffie, U. S. Department of Agriculture; "How to Control Carpet and Cabinet Beetles," by Dr. Lyman S. Henderson, U. S. Department of Agriculture; "Preventive Rodent Control," by Dr. Harold Gunderson, Iowa State College; "New Developments in Fly Control," by Dr. Herbert F. Schoof, U. S. Public Health Service; "Cheese Mite Control," by Dr. Robert J. Dicke, University of Wisconsin; "Insecticides for Food Plants," by George C. Decker, University of Illinois, and "Food and Drug Quiz," by George T. Daughters, Food and Drug Administration.

Low Cost "Sipon"

A tallow alcohol in flake form, claimed to be the lowest cost fatty acid on the U.S. market, was introduced last month by American Alcolac Corp., Baltimore. "Sipon TX" is currently used as a detergent intermediate, foam depressant, and emollient. It is said to hold promise as an ingredient of lubricating oil additives and as basic raw material for emulsifiers and other products. Technical data and

characteristics are available from Alcolac.

Diamond Expands Plant

Diamond Alkali Co., Cleveland, recently announced plans to double the current perchlorethylene production at its Deer Park plant in Houston, Tex. Loren P. Scoville, general manager of the chlorinated products division said that the multimillion dollar project will be completed by January 1957.

New Roselux Plant

Roselux Chemical Co., Brooklyn, N. Y., manufacturers of "Rose-X" bleaching compound, recently announced that it will build a 50,000 square foot plant at 180th St. and Brinkerhoff Ave. in St. Albans, L. I., N. Y. The new building will be a one-story structure and will be used for the manufacture and distribution of Roselux products. Construction is scheduled to begin later this year.

New Ultra Wax

A new liquid floor wax designed for use on asphalt, rubber, vinyl and cork tile, and linoleum was announced in March by Ultra Chemical Works, Inc., Paterson, N. J. The new, heavy-duty wax, called "Ultra Gloss 400," contains "Ludox" colloidal silica of E. I. du Pont de Nemours & Co., Wilmington, as the anti-slip agent. The product comes packed in one and five-gallon containers and in 55 gallon drums. It will be sold through distributors only. Containing carnauba wax, "Ultra Gloss 400" is claimed by the maker to provide high, long-lasting gloss. It has been tested in industrial plants, office buildings, municipal offices, hospitals and other institutions that have a high degree of floor wear.

New "Ultra Gloss 400" heavy duty floor wax announced recently by Ultra Chemical Works, Paterson, N. J., comes in one, five and 55 gallon containers.



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New can-like containers with flexible sides of Bakelite polyethylene plastic are now being used by Joseph Breck & Sons Corp., Boston, to package and dispense with a squeeze their household insecticides. Eight-ounce containers spray a cloud of garden dust. Spout and flexible sides are of polyethylene. Smooth molded surfaces help prevent caking of contents to block spout. Extruded polyethylene sidewalls can be printed in three colors. A double seal plug cap is fastened with a hinge to the spout by molding all three in one piece. The spout snap fits into the metal top and is recessed so cans may be stacked one on top of the other. Container by Bradley Container Corp., Maynard Mass., consists of a flexible polyethylene sleeve with metal ends crimped on top and bottom, and a new type spout. Aimed straight up, down or at any angle, the spout releases a cloud of spray when the container is squeezed. For the home gardener this means spraying the vulnerable undersides of leaves as easily as dusting the tops. Containers range in size from eight to 32 ounces.

NSSA Meeting Program

A 17-member panel discussion of floor care will be one of the highlights at the 33rd annual convention and trade show of the National Sanitary Supply Association to be held at the Conrad Hilton Hotel, Chicago, April 29-May 2. Moderator of the floor maintenance panel is Marshall M. Magee, Magee Chemical Co., Bensenville, Ill.

Approximately 165 manufacturers and distributors of sanitary chemicals and sanitation and allied equipment will be represented at the NSSA trade show, which this year is open to members only.

Lacy E. Crain, Conco Chemical Co., Dallas, NSSA president, will address the meeting when it first convenes in the evening of April 30. Jack Kahn, Windsor Wax Co., Hoboken, N. J., NSSA national vice president and Leo Kelly, the group's executive vice-president, will also address this session. On Tuesday, May 1, at 1:45 p.m., NSSA will elect its national officers, directors, and regional vice

presidents. The annual banquet and floor show will be held the evening of May 1 in the Grand Ballroom of the Conrad Hilton. The exhibition will be open as follows: April 29 and 30, 9 a.m. to 5 p.m.; May 1, 9 a.m. to 12 noon; May 2, 9 a.m. to 1 p.m.

"Halane" Price Reduction

A ten cent per pound reduction in the price of "Halane" was announced recently by Wyandotte Chemicals Corp., Wyandotte, Mich. Used as an active ingredient of dry bleaches for home and laundry, "Halane" is Wyandotte's trade name for 1,3-dichloro-5,5-dimethylhydantoin. The new price schedule per pound for the 10-mesh material runs as follows: carload—40 cents; truckload—42 cents; mixed carloads or mixed truckloads containing a minimum of 2500 pounds of "Halane"—45 cents; less than truckload drum quantities—47 cents; and 25 pound drum—52 cents. Quotations for the 30 mesh grade run two cents higher.

Carbide Names Three

Appointment of three assistant sales managers was announced recently by Carbide and Carbon Chemicals Co., New York. Named were: R. L. Duncan, former eastern division manager; F. J. Rauscher, former southwestern division manager; and E. R. Young, former central division manager.

Pyrethrum Extraction Unit

Plans for the erection of the world's largest pyrethrum-extraction plant outside of the United States in Nakuru, Kenya, Africa, have been laid before American and European manufacturers of equipment, it was announced late in March by African Pyrethrum Development, Inc., New York.

The capacity of the plant is expected to be 2,500 to 3,000 tons of flowers a year, and is planned for future expansion. The extraction plant is planned by the Pyrethrum Board of Kenya, an organization representing the pyrethrum growers. Its requirements were brought to America by Dr. John R. Furlong, the board's scientific adviser. Dr. Furlong also designed and built the board's laboratory, opened at Nakuru late last year—the first one designed exclusively for research into pyrethrum.

The planned capacity of the plant, according to African Pyrethrum Development, Inc., is substantially the total amount of blossoms now shipped in bales to the United States for extraction here. The only other extraction plant now operating in Africa is one at Nairobi with a capacity of 2,000 tons a year. The pyrethrum extract can be flown, in case of need, to processors, whereas baled flowers must be sent by ship over the long route from Mombasa or Dar es Salaam, on the East Coast of Africa, to American ports.

Recent changes in American laws (particularly the Miller Bill) have enlarged the importance of pyrethrum to the extent that African producers foresee a need for doubling present production rates

by 1960. This year's crop is estimated at 4,000 tons for British East Africa and about 2,000 tons for the Congo. The U. S. currently imports about 65 percent of total African production.

New Hollingshead Folder

A ten-page folder, entitled "Specifications for Maintenance Chemicals," was issued recently by R. M. Hollingshead Corp., Camden, N. J. The folder lists general requirements and detailed properties for water-base non-wax floor finishes; self-polishing water-base waxes; wax and finish strippers and general purpose cleaners.

Diversey Honored

Diversey Corp., Chicago, received an award for excellent management by the American Institute of Management, it was announced in March. The formal report, issued by the institute, notes some of the reasons for Diversey's rise to a prominent position in the manufacture of sanitation chemicals: modern facilities and an atmosphere conducive to research and development, high standard in the quality of research personnel are cited. The report goes on to say: "The pulse of the entire Diversey Corporation is its sales division, and this division is one of the best integrated and well operated sales groups which the institute has examined in an organization of Diversey's size and type." Copies of the report are available from Diversey.

Lewis Shere, president of Diversey Corp., Chicago, receives his company's award for excellent management for 1955 from Jackson Martindell, president of the American Institute of Management.



Cattle Spray Folder

A folder, "Does It Pay to Spray," covering the use of its "Crag" fly repellent on livestock was announced recently by Carbide and Carbon Chemicals Co., a division of Union Carbide and Carbon Corp., New York. Using "Crag" fly repellent plus synergized pyrethrins made possible a gain per head of 65.6 pounds at a cost of 37 cents for the spray, the folder states. The value of increased weight per head was put at \$13.12 and the increased profit due to spray amounted to \$7.59, the folder shows.

Increased milk production also resulted from the use of "Crag" in controlling biting flies during a 30 day period. At a cost of 80 cents per cow for the spray, the value of increased milk per cow was put at \$4.35. The increased profit per cow due to spraying amounted to \$3.55.

The folder is available by writing the company at 30 E. 42nd St., New York 17, N. Y.

Renuzit Names Agency

The appointment of Arndt, Preston, Chaplin, Lamb & Keen, Inc., Philadelphia advertising agency, to handle all consumer and trade advertising for the "Renuzit" line of cleaning products was announced recently by Renuzit Home Products Co., Philadelphia.

Insect Control Booklet

A new publication dealing with insecticides and repellents for the control of insects of medical importance to the Armed Forces was prepared recently by the Orlando, Fla., laboratory of the Entomology Research Branch, Agricultural Research Service. The booklet deals with chemistry of insecticides and repellents, military issue items, control of mosquitoes, control of flies, control of human lice and scabies, control of other medically important arthropods, repellents, and toxicology of insecticides and repellents. Circular #977 may be purchased for 35 cents per copy from the Superintendent of Documents, Washington 25, D. C.

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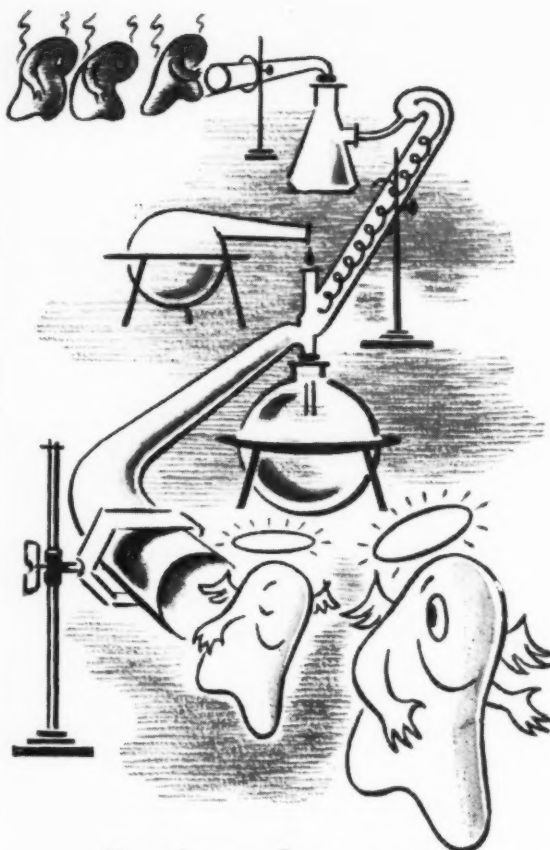
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Amer. Home Earnings Up

Earnings and profits of American Home Products Corp., New York, for 1955 were higher than in the previous two years, it was reported recently. Last year the company's earnings per share were \$5.34 on 3,846,279 shares of capital stock and the net profit after taxes was \$20,536,619. In 1954, earnings amounted to \$4.22 on 3,843,934 shares and net profit after income taxes was \$16,211,391.

—★—

Aerosol Group Rules

A set of rules governing membership in the scientific committee of the Aerosol Division of the Chemical Specialties Manufacturers Association were approved and accepted by the committee, it was announced recently. The rules include the following stipulations among others; committee members can designate qualified alternates from their companies to attend in their place and exercise their voting privileges; members or qualified alternates are required to attend at least one of the two annual committee meetings; laboratories having members on the committee are required to take part in at least one project a year, or serve actively on one scientific subcommittee project; in the absence of participation the membership subcommittee shall have authority to retain any member that they deem will be of value to the committee; members shall be qualified by reason of training or experience to take an active part in committee work.

—★—

New Methanol Plant

Hercules Powder Co., Wilmington, Del., recently announced plans for construction of a new plant to produce seven million gallons of methanol a year. Located at Louisiana, Mo., where the firm now produces anhydrous ammonia and is completing construction of a pentaerythritol and formaldehyde plant, the new unit will cost more than \$2,000,000 to build, is scheduled for completion in the second quarter of 1957.



James D. Jensen, above, whose appointment to the staff of T. F. Washburn Co., Chicago, was announced last month, will cover several southwestern states for the company. He is a graduate of Northwestern University (1955) with a B.S. degree in chemical engineering. While a student at Northwestern he worked for Washburn under the cooperative system. Mr. Jensen is working under the supervision of Dick Benson, who covers the southwest for Washburn.

"Diazinon" for PCO Use

"Diazinon" organic phosphate insecticide is now registered for indoors spot treatment use in the form of a one half percent spray against cockroaches, it was announced recently. A product of Geigy Agricultural Chemicals, New York, its use is restricted to pest control operators and suggested exclusively for the control of cockroaches resistant to chlorinated hydrocarbons. The spray should consist of two and one half ounces of "Diazinon 25E" (25 percent emulsion concentrate) in one gallon of water.

Certain hazards attend the use of organic phosphates including "Diazinon." Being chlorinesterase inhibitors, these compounds interfere with normal chemical reactions involved in the transmission of nerve impulses. "Diazinon" may injure humans or animals through one exposure to concentrated material or through repeated exposure to dilute sprays. Young animals and poultry are most vulnerable. Users are warned to avoid any contamination of the skin with concentrates and repeated exposures to dilute sprays. A low pressure spray must be used and all precautions taken.

Westvaco Sales Changes

A number of changes in the sales organization of Westvaco Mineral Products Division, Food Machinery and Chemical Corp., New York, was announced recently by Donald C. Oskin, division sales manager. Raymond C. Tower, former New York district manager, becomes product manager of phosphates sales, located at divisional headquarters in New York. Mr. Tower is succeeded as New York district manager by Anthony G. Tappin, who previously was district manager in Cincinnati. New Cincinnati district manager is Justin A. Lewis, who had been sales representative in the New Jersey district, a post now assigned to Robert E. Cochran.

Gil W. Lewis becomes district manager for a newly created district based on the Philadelphia area. He served previously as a sales representative in that area.

John M. Richard, Mr. Tower's predecessor as product manager of phosphates sales, is now product manager of chlorine and alkali sales for Westvaco Chlor Alkali Division of Food Machinery & Chemical Corp.

—★—

FMC Names Mayne

Larry G. Mayne has been named manager of the newly created sales department of Niagara Chemical Division of Food Machinery & Chemical Corp., New York, it was announced recently by S. H. Bear, general sales manager and vice president.

—★—

Koppers Advances Rhodes

Richard S. Rhodes has been made assistant to Fred C. Foy, president of Koppers Co., Pittsburgh, it was announced last month by Mr. Foy. Prior to this appointment Mr. Rhodes had served as assistant manager in the production department since 1954. He joined Koppers in 1934 and has in turn served in the tar products division, in the chemical division, and in the central staff procurement department as manager of its requirement section.

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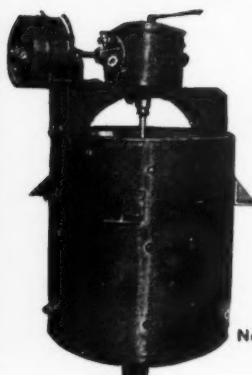
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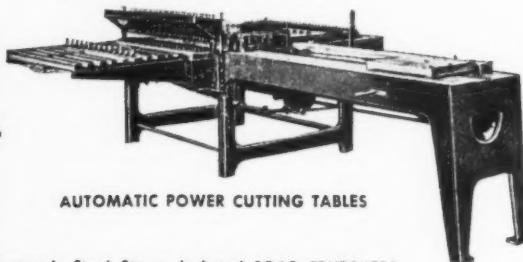
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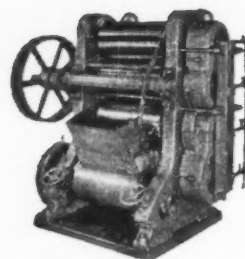


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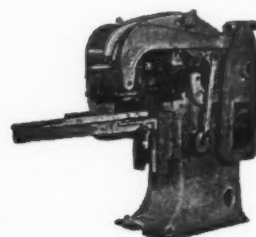


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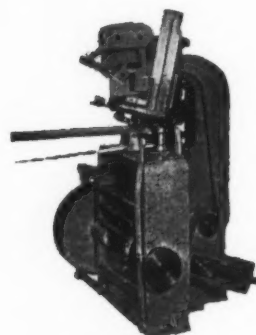
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Chemist & Soapmaker: With about 25 years experience in soaps (liquid & powders) detergents, disinfectants, polishes, self-polishing waxes, floor paints, varnishes and other coatings. Excellent record of having developed technically several companies. Should like to give his know-how to another enterprise as a consultant. Will furnish references. Address Box 637, c/o Soap.

Chemist: Age 28, competent man without degree. Five years production, formulation, control experience on waxes and sanitary products, industrial, household, shoe and automotive. Has proven formulas. Address Box 638, c/o Soap.

Standard Reference Books
See Page 198

Situations Wanted

Sales Executive: Age 39 with 17 years industrial detergent experience. Has record of "Know-How" for training new men, helping others increase sales, knowledge of production, formulation, electronic controls, rinse injectors, writing sales manuals. Presently selling chemical interests to relocate in west or southwest. Address Box 639, c/o Soap.

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For Sale: Two 1-ton steam jacketed crutchers, vertical, reversible drives, on legs, in A-1 condition, \$500. each; one 10" Lehman soap plodder, excellent condition, \$1,000. For immediate sale. Sanitary Soap Co., 104 RR Ave., Paterson, New Jersey.

For Sale: 1 World semi-automatic labeler model S \$425. 1 eight spout straight line vacuum filler \$225. The Gilbreth Co., 1211 Chestnut St., Phila., 7, Pa.

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(Continued on Page 195)

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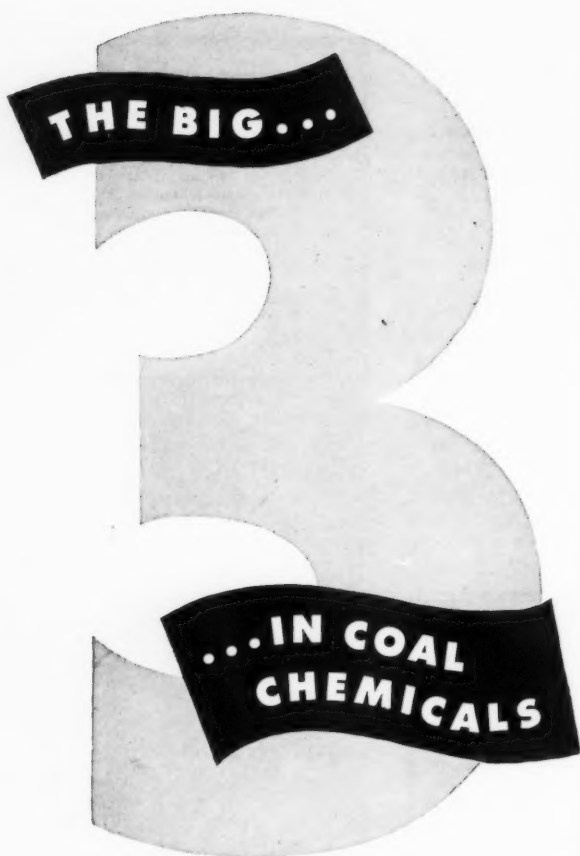
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Are You Posted on SYNTHETIC DETERGENTS and SOAPS & DETERGENTS? See Page 154.

AHA Standards Group

The board of governors of the Chemical Specialties Manufacturers Association announced recently that it would not be a co-sponsor with the American Hotel Association for the establishment of standards on five groups of chemical specialties. The American Standards Association is setting up the standards for the American Hotel Association, and the CSMA was asked to appoint a representative and an alternate to Sectional Committee K-63. CSMA was also invited to participate in any of the work of developing standards for 19 end-uses.

Six subcommittees have been set up by the AHA under K-63 sectional committee. It would be their responsibility to develop performance standards for manual and machine dishwashing in hard and soft water; manual and mechanical aluminum dishwashing in hard and soft water; on-location carpet cleaning with liquid and solid cleaners;

upholstery cleaning with liquid and solid cleaners; floor wax; abrasive cleaning of kitchenware; cleaning of new and old, worn and unworn ceramic tile, porcelain enamel and vitreous china; removal of stains from vitreous china and porcelain enamel; surface cleaning; furniture polishing; metal polishing of aluminum, stainless steel, silver, silver by the dip method, and general metal cleaning; glass cleaning and polishing and painted surfaces cleaning. There is also a subcommittee on labeling and certification.

Both the Association of American Soap & Glycerine Producers and the National Sanitary Supply Association have also been invited to participate in this AHA project.

— ★ —

Cos. Chems. Ladies Night

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Hollingshead Names Distr.

Camden Bag and Paper Co., Camden, N. J., recently was appointed Camden and South Jersey distributor for products of the Industrial Division of R. M. Hollingshead Corp., Camden. The newly-appointed distributor will handle the full line of sanitary supplies

Ky. Pesticide Bill

Kentucky House Bill No. 471, requiring the registration of economic poisons, was passed and signed recently by the Governor. It becomes effective July 1, 1956 and requires a registration fee of \$5.00 per brand annually with a \$50 maximum. The law permits "op-

tional" labeling of ingredients. Bill 471 was a tandem bill with Kentucky Senate Bill 135, which also provided for a \$5.00 per brand annual registration fee and a \$100 maximum. Optional labeling was also provided in the Senate bill.

A bill covering economic poisons was introduced in the Pennsylvania House recently which would require a registration fee of \$7.50 per brand, which is being protested by the general counsel of the Chemical Specialties Manufacturers Association. A reduction in the per brand fee and a maximum charge are being requested.

Brake fluid legislation has been enacted or is under consideration in several states. Georgia Senate Bill No. 46 was approved recently. It requires an annual fee of \$25 for each brand submitted for inspection or license. The bill becomes law July 1, 1956. The principal provision is the establishment of a minimum standard. The State Revenue Commissioner cannot adopt

a minimum standard or specification below those established by the SAE for heavy duty.

Massachusetts, Mississippi, Michigan and South Carolina are considering brake fluid legislation. No action has been reported on the Michigan Senate Bill No. 1120. Mississippi House Bill No. 131 passed the House and has been referred to the Corporations Committee in the Senate. Hearings have been requested on the bill by CSMA.

South Carolina House Bill No. 1843 has been reported as having passed.

Michigan has under consideration a proposed amendment to its Insecticide, Fungicide and Rodenticide Act of 1949. Under the amendment a \$10 per brand registration fee with no maximum is proposed. The present law calls for a registration fee of \$5.00 per brand for the first 10 brands, and \$2.00 per brand thereafter. CSMA is protesting the bill, which is similar to one introduced last year.

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Coming Meetings

American Oil Chemists' Society, 47th annual spring meeting, Shamrock Hotel, Houston, Texas, April 23-25.

American Public Health Association, 84th annual meeting, Convention Hall, Atlantic City, Nov. 12-16.

American Society for Testing Materials, Committee D-21 on Wax Polishers and Related Materials, Washington, D. C., Dec. 10.

Chemical Specialties Manufacturers Association, 42nd mid-year meeting, Drake Hotel, Chicago, May 20-22.

Entomological Society of America, annual meeting, Dec. 27-31, 1956, Hotel New Yorker, New York City.

Industrial Health Conference, Convention Hall, Philadelphia, April 21-27.

International Sanitation Maintenance Show and Conference, New York Coliseum, Oct. 14-16.

National Association of Retail Grocers, Los Angeles, June 10-14, 1956.

National Association of Sanitarians, 20th annual conference and exposition, Morrison Hotel, Chicago, July 23-26.

National Hotel Exposition, 41st annual show, Coliseum, New York City, Nov. 12-16.

National Sanitary Supply Assn., 33rd annual convention and trade show, Conrad Hilton Hotel, Chicago, Apr. 29, 30 and May 1-2.

Packaging Machinery & Materials Exposition, Public Auditorium, Cleveland, Sept. 11-14.

Society of Cosmetic Chemists, semi-annual meeting, Biltmore Hotel, New York, May 18.

Super Market Institute, 19th annual convention, Cleveland, O., auditorium, May 6-9.

Synthetic Organic Chemical Manufacturers Association, monthly luncheon meetings, Roosevelt Hotel, New York, June 12, Sept. 11, Oct. 9, Nov. 7; outing at Skytop, Pa., May 16-18.

Toilet Goods Association, annual meeting, Waldorf-Astoria Hotel, New York, May 15-17.

Index to ADVERTISERS

Aerosol Process Co.	191	Heine & Co.	16	Peterson Filling & Packaging Corp.	Facing 107
African Pyrethrum Development, Inc.	155	Hercules Powder Co.	34	Philadelphia Quartz Co.	Facing 67
American Can Co.	108	Hill Top Research Institute, Inc.	191	Pilot Chemical Co.	76
Andersen, Dr. Carl N.	191	Hooker Electrochemical Co.	128	Polak's Frutal Works, Inc.	75
Armour & Co.	28	Hope Machine Co.	90	Precision Valve Corp.	116
Aromatic Products, Inc.	162	Houchin Machinery Co.	78	Price, Dr. Donald	189
Atlantic Refining Co.	62	Hudson Laboratories, Inc.	189	Procter & Gamble Co.	58
Bareco Wax Co.	172	Inland Steel Container Co.	100	Rapids Machinery Co.	94
Barr & Co., G.	106	International Minerals & Chemical Corp.	25	Rohm & Haas Co.	40, 137
Barrett Div., Allied Chemical & Dye Corp.	22	Island Equipment Co.	90	Roure-Dupont, Inc.	8, 9
Blockson Chemical Co.	12	Jefferson Chemical Co.	96	Schrader's Son, A.	107
Bush & Co., W. J.	192	Johns-Manville	26	Seil, Putt & Rusby, Inc.	189
Candy & Co.	4	Jones & Laughlin Steel Corp.	104	Shanco Plastics & Chemicals, Inc.	192
Carbide & Carbon Chemicals Co., Union Carbide & Carbon Corp.	178	Koppers Co.	194	Sharples Chemicals Division	158
Chemical Specialties Mfrs. Assoc.	123	Lancaster, Allwine & Rommel	189	Shea Chemical Corp.	72
Colgate-Palmolive Co.	33	Leeben Chemical Co., Inc., Interstate Color Co., A Division	196	Shell Chemical Corp.	13, 174
Columbia-Southern Chemical Co.	195	Lewers, Dr. W. W.	189	Shulton, Inc.	64
Commercial Solvents Corp.	125	Lueders & Co., George	118	Sindar Corp.	38, 186
Continental Can Co.	Facing 106, 112	Magnus, Mabce & Reynard, Inc.	132	Foster D. Snell Inc.	182
Continental Filling Corp.	120	Mantrose Corp., The	140	Solvay Process Div., Allied Chemical & Dye Corp. 2nd Cover,	141
Continental Oil Co.	15	Manufacturers Aid Co.	189	Solvents & Chemicals Group, The	136
Cowles Chemical Co.	30	Marchon Products, Ltd.	74	Sonneborn Sons, Inc., L.	133
Cox, Dr. Alvin J.	191	Maryland Glass Corp.	105	Starr, Dr. Donald F.	189
Deutsche Hydrierwerke, G.m.b.H.	82	Mathieson Chemical Div., Olin Mathieson Chem. Corp.	Facing 66	Stepan Chemical Co.	19
Diehl & Co., Wm.	197	McCutcheon, J. W.	189	Sterwin Chemical Inc.	170
Dodge & Olcott, Inc.	168	McLaughlin Gormley King Co.	124	Stillwell & Gladding, Inc.	189
Dow Chemical Co.	8, 9, 29, 59, 77	Meccaniche Moderne	80	Tamms Industries, Inc.	196
Dreyer, Inc., P. R.	139	Mercantile Wax Division	194	Thomssen, Dr. E. G.	189
du Pont de Nemours & Co., E. I.	21, 31, 139	Merchants Chemical Co.	10	Tombarel Products Corp.	188
Durez Plastics Division	131	Molnar Laboratories	189	Triangle Package Machinery Co.	95
El Dorado Oil Works	84	Monsanto Chem. Co.	Between 82 & 83	Turner & Co., Joseph	90
Emery Industries, Inc.	68	National Aniline Division	57	Ultra Chemical Works, Inc.	92
Emulsol Chemical Corp.	164	Neumann, Buslee & Wolfe, Inc.	197	Ungerer & Co.	3rd Cover
Enjay Co.	24	Newman Tallow & Soap Mach'y Co.	190	Union Carbide & Carbon Corp.	178
Ertel Engineering Corp.	88	Niagara Alkali Division	17	Union Standard Equipment Co.	192, 193
Fairfield Chemical Division	4th Cover	Ninol Laboratories, Inc.	11	U. S. Bottlers Machinery Co.	84
Felton Chemical Co.	23	Nitrogen Div., Allied Chemical & Dye Corp.	142	van Ameringen-Haebler, Inc.	27, 183
Fluid Chemical Co.	110	Nopco Chemical Co.	20	Van Dyk & Co., Inc.	184
Fritzche Brothers, Inc.	176	Norda Essential Oil & Chemical Co.	3	Velsicol Chemical Corp.	160
General Chemical Div., Allied Chemical & Dye Corp.	32, 126, 127	O'Donnell, James P.	189	Verona Chemical Co.	98
Gesell, Inc., R.	194	Oil Equipment Laboratories, Inc.	120	Victor Chemical Works	86
Gillespie-Rogers-Pyatt Co.	152	Old Empire, Inc.	196	Vulcan Containers Inc.	117
Givaudan-Delawanna, Inc.	Between 66 & 67, 156	Olin Mathieson Chemical Corp., Industrial Chemical Div. Facing	66	Warwick Wax Co.	180
Glidden Co., The	188	Oronite Chemical Co.	18	Westvaco Chlor-Alkali Div.	36
Gross & Co., A.	66	Owens-Illinois Glass Co.	102, 103	Westvaco Mineral Products Div.	60
Harchem Div., Wallace & Tiernan, Inc.	88	Pennsylvania Industrial Chemical Corp.	169	Wisconsin Alumni Research Foundation	195
				Wyandotte Chemicals Corp.	14, 70, 71
				Zinsser & Co., William	186

Tale Ends

AN Englishman selling soap in France for the subsidiary of an American company is complicated enough. But when you have to report that same young man is now in the United States selling soap to laundries in Brooklyn,—well that's one for the book. The young man? He's Pat Vanson, who works for Colgate International's subsidiary in France. Pat has been in the States for nearly a year now learning how soap and detergents are made and sold here. As part of an intensive training course his latest assignment has been to sell soap to laundries in Brooklyn. Next he'll top it off with a stint in the advertising department, and then off to La Belle France where he heads the recently formed industrial department.

Paul Mayfield, Hercules Powder's long time student of the Daily Racing Form, has finally met the end of all who pursue that subject. He is the owner of a running horse. This one does no more running, excepting in the field, as she is a brood mare. But she eats. The mare in question is a 7 year old by Abbe Pierre called Entreat who won about \$12,000 during her racing days. Paul already has a yearling out of her, is breeding her back this spring. His troubles are just starting, according to advices from one who knows. G.A.D.

David Gamble's election to the board of directors of P&G brings the fourth generation of Gambles into the company. His great grandfather, James Gamble teamed up with William Procter to make soap and candles and from these small beginnings grew the biggest soap outfit in the U. S. Interestingly enough Gamble, the soapmaker was an Irishman, and Procter, the candle maker, an Englishman. But in business those things don't seem to count. One story goes that as the boys married sisters the father-in-law persuaded them to go into business together. Another oddity: the Procter and Gamble families met on a flatboat going down the Ohio. They were heading west to make their fortunes, but when Mrs. Gamble, great grandmother of the new board member became ill, both families got off the flatboat at Cincinnati, eventually making their homes there.

Ten short years ago, he was prez of CSMA. Today, he's gone western on us completely. The picture is none other than Henry Nelson, former prez of Chemical Supply Co., Cleveland, now retired to his ranch at Apple Valley, Calif. Western shirt, hat, pants and those high-heeled boots. What no six shooters! All his old pals



in CSMA will be glad to know that Henry likes the retired life and would not have it any other way. He sends greetings to all the old-timers.

"Miss Professional Secretary Week" was held with a flourish in New York, and elsewhere we suspect, during March. The thing will take on tremendous proportions unless somebody steps in and calls a halt to the whole idea. Last fall the Sales Executives Club of New York had a "gal Friday" luncheon to which all the moguls dragged their secretaries. This seemed to start the cycle. Next the "Professional (are there any other kind?) Secretaries" reciprocated and took their bosses out to a big luncheon meeting. Seeing possibilities to the idea the Salesmen's Association of the American Chemical Industry (SAACI to you) had a "Girl Friday Luncheon" at the Waldorf in New York on March 15. The girls not only got a lunch out of it but a show as well. The cost? Around \$14 with or without escort. As we say, this thing could go too far.

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